Oleta River State Park

Approved Unit Management Plan

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Division of Recreation and Parks
August 2022

FLORIDA DEPARTMENT OF Environmental Protection

Marjory Stoneman Douglas Building
3900 Commonwealth Boulevard
Tallahassee, FL 32399

Ron DeSantis
Governor

Jeanette Nuñez
Lt. Governor

Shawn Hamilton
Secretary

August 15, 2022

Mr. Brian Fugate
Division of Recreation and Parks
Department of Environmental Protection
3900 Commonwealth Boulevard, MS 525
Tallahassee, Florida 32399-3000

RE: Oleta River State Park – Lease No. 3154

Dear Mr. Fugate,

On **August 12, 2022**, the Acquisition and Restoration Council (ARC) recommended approval of the **Oleta River State Park** management plan. Therefore, Division of State Lands, Office of Environmental Services (OES), acting as agent for the Board of Trustees of the Internal Improvement Trust Fund, hereby approves the **Oleta River State Park** management plan. The next management plan update is due August 12, 2032.

Pursuant to s. 253.034(5)(a), F.S., each management plan is required to "describe both short-term and long-term management goals and include measurable objectives to achieve those goals. Short-term goals shall be achievable within a 2-year planning period, and long-term goals shall be achievable within a 10-year planning period." Upon completion of short-term goals, please submit a signed letter identifying categories, goals, and results with attached methodology to the Division of State Lands, Office of Environmental Services.

Pursuant to s. 259.032(8)(g), F.S., by July 1 of each year, each governmental agency and each private entity designated to manage lands shall report to the Secretary of Environmental Protection, via the Division of State Lands, on the progress of funding, staffing, and resource management of every project for which the agency or entity is responsible.

Pursuant to s. 259.032, F.S., and Chapter 18-2.021, F.A.C., management plans for areas less than 160 acres may be handled in accordance with the negative response process. This process requires small management plans and management plan amendments be submitted to the Division of State Lands for review, and the Acquisition and Restoration Council (ARC) for public notification. The Division of State Lands will approve these plans or plan amendments submitted for review through delegated authority unless three or more ARC members request the division place the item on a future council meeting

agenda for review. To create better efficiency, improve customer service, and assist members of the ARC, the Division of State Lands will notice negative response items on Thursdays except for weeks that have State or Federal holidays that fall on Thursday or Friday. The Division of State Lands will contact you on the appropriate Friday to inform you if the item is approved via delegated authority or if it will be placed on a future ARC agenda by request of the ARC members.

Pursuant to s. 259.036(2), F.S., management areas that exceed 1,000 acres in size, shall be scheduled for a land management review at least every 5 years.

Conditional approval of this land management plan does not waive the authority or jurisdiction of any governmental entity that may have an interest in this project. Implementation of any upland activities proposed by this management plan may require a permit or other authorization from federal and state agencies having regulatory jurisdiction over those particular activities. Pursuant to the conditions of your lease, please forward copies of all permits to this office upon issuance.

Sincerely,

Deborah Burr Digitally signed by Deborah Burr Date: 2022.08.16 14:19:13 -04'00'

Deborah Burr
Office of Environmental Services
Division of State Lands

OLETA RIVER STATE PARK
Unit Management Plan
Executive Summary
Park History
Park Significance

Park History

Oleta River State Park was initially acquired on June 9, 1980 with funds from the Preservation 2000 Program (P2000) / A and I program. The park is currently 1,032.69 acres.

Park Significance

The parks name sake, the Oleta River, is the last remaining river in the Miami area not having been dredged or channelized due to increasing development. Naturally draining into Biscayne Bay, the river allows fresh water to eventually reach the neighboring Atlantic Ocean. Largely undeveloped, the seven-mile stretch of the river provides scenic viewing opportunities of various wildlife and the only remaining riverine mangrove forest, situated in view of the North Miami skyline.

OLETA RIVER STATE PARK
Unit Management Plan
Executive Summary
Central Park Theme
Park Interpretive Themes

Central Park Theme

Oleta River State Park is restoring wild Miami along the shores of Biscayne Bay, where communities have gathered long before the area became a modern metropolis.

Primary Interpretive Themes

Park History
People have gathered along the water's edge for the opportunity to hunt and fish South Florida's natural diversity, beginning with the Tequesta people thousands of years ago.

Hydrology
Oleta River feeds into regionally significant Biscayne Bay, but hydrological alterations have permanently changed this from fresh to a saltwater environment.

Natural Communities
Just like the bustling city, Oleta River's vibrant mangrove forests are filled with diverse life and provide valuable ecosystem services to the surrounding communities.

Restoration Efforts
Although human action and development have altered the land, park staff and partners work to restore habitats so that the park can be a refuge for future generations of people and animals.

OLETA RIVER STATE PARK
Unit Management Plan
Executive Summary
Park Quick Facts
Natural Community Composition

- **Agency:** Department of Environmental Protection - Division of Recreation and Parks
- **Acreage:** 1,032.69
- **Location:** Miami -Dade County
- **Lease Management Agreement Number(s):** 3426
- **Use:** Single
- **Responsibility:** Public Outdoor Recreation and Conservation
- **Sublease:** None
- **Encumbrances:** See Appendix 1 for details
- **Public Involvement:** See Appendix 2 for details
- **Optimum Boundary:** None
- **Surplus Lands**: None

Natural Communities	Acreage	Percentage
Mangrove Swamp	462.03	44.74%
Altered Landcovers	356.50	34.52%
Marine Unconsolidated Substrate	154.85	15.%
Maritime Hammock	47.36	4.58%
Marine Consolidated Substrate	11.21	1.08%
Beach Dune	2.38	0.23%
Total Acreage	**1,302.69**	**100%**

OLETA RIVER STATE PARK
Unit Management Plan
Executive Summary
Park Accomplishments: 2008 — 2022
Ten-Year Planning Period Objectives

Previous Accomplishments

Since the 2005 approved unit management plan, significant resource management and visitor service accomplishments have occurred. Two projects were developed for removal of the invasive Australian Pine along with a mitigation project for Johnson's seagrass within a former borrow area. Visitor use was also improved with the interior renovations of park cabins, along with fishing pier renovations at the south beach access area. Renovations were also done at the Blue Marlin Fish House Concession. In 2015, the park recorded over 667,000 visitors.

Future Objectives

Moving forward throughout the next 10 years of this Unit Management Plan, the park plans to continue resource management efforts by removing non native plant and animal species such as the green iguana, and Burma reed. Restoration efforts of parks uplands include removing all Australian Pine and to revegetate the area with native plant species representative of maritime hammock such as Sabal palmetto and Wax myrtle. Two isolated mangrove swamp will be restored. This will be accomplished by replacing or repairing existing culverts to allow improved tidal flow to reach the mangroves. The park will continue to implement monitoring of Johnson's Seagrass with annual assessments to monitor growth. To continually enhance the visitor experience, improvements will be made to all use areas including adding a new fishing pier at the Intracoastal Use Area, replacement and or renovations of the cabins, and restroom renovations at the beach area. New interpretive opportunities focused on roving and guided programs highlighting the park's natural communities including the stretch of mangroves, which is a popular area for paddling, hydrology of adjacent waters including the Oleta River and Biscayne Bay, as well as continued restoration efforts of the park's uplands.

OLETA RIVER STATE PARK
Unit Management Plan
Executive Summary
Hydrological Management
Natural Community & Cultural Management

Hydrological Management

Goal: Protect water quality and quantity in the park, restore hydrology to the extent feasible and maintain the restored condition.

Objective: Restore and improve water flow to isolated mangrove swamps and reduce flooding in developed areas

The hydrological conditions of two isolated mangrove areas are to be restored by replacing, adding or repairing existing culverts. Improved tidal flow will aid in restoring the ecological function. Feasibility studies will first take place to assess conditions of current culverts (i.e. locations and functionality). Maintenance will be performed annually on the culverts to ensure functionality, the exchange of fresh water, and general health of the mangroves.

Natural Community Management

Goal: Restore and maintain the natural communities / habitats of the park.

Objective: Conduct natural community restoration on 170 acres of spoil area by transitioning area into representative maritime hammock .

Within in the spoil areas, efforts to remove Australian pine will take place. Current spoil areas have a heavy overstory dominated by the non native tree. Removal will be done through mowing and later mulching, either by park staff, district biologists, or a hired contractor. Once these area are cleared, revegetation will take place with native plant species, including Sabal palmetto, Jamaica caper, and or cabbage palm.

Cultural Resource Management

Goal: Protect, preserve, and maintain the cultural resources of the park.

Objective: Conduct a level 1 archeological survey for priority zones identified

Three sites within the park are listed on the Florida Master Site File. Two archaeological sites from the Glades Period and structural remnants from the original Blue Marlin Fish House. A level one archeological survey will be conducted for priority zones.

OLETA RIVER STATE PARK
Unit Management Plan
Executive Summary
Non-Native Invasive Nuisance Species

Non-Native Invasive Species Management

Goal: Remove invasive species from the park and conduct needed maintenance control

Objective: Annually treat 86 infested acres of non-native invasive plant species in the park

86 infested acres (170 gross acres) of non native - invasive plants are to be treated annually. Australian pine has been the main focus of removal along with Burma reed and Brazilian pepper. Once removed, native vegetation representative of maritime hammock natural community will be planted, including: Sabal palmetto, white indigo berry, and Jamaica caper. Additional non - native invasive & nuisance plant species found within Oleta River State Park include:

- Oyster plant
- Coconut Palm
- Air potato
- Wedelia
- Burma reed
- Brazilian pepper

Objective: Implement control measures on 1 exotic animal species

Monitoring of Green iguanas will take place in an effort to remove their populations within the park. Staff will survey and opportunistically remove the green iguanas following occasional frost and cold events. While total eradication is unlikely, it is important to keep populations reduced to minizine impacts on the parks native species and natural systems.

Objective: Monitor Sandspur Island for invasive and nuisance species

At the parks spoil island, Sandspur Island, monitoring will be done to remove raccoons, who are also an issue on the parks mainland. A contractor may be hired for larger scale for the removal of the racoons if needed. Additionally, the island should be surveyed for invasive plant species every two years, and removed either by park and district staff or a contractor.

OLETA RIVER STATE PARK
Unit Management Plan
Executive Summary
Management Goals & Objectives
Imperiled Species

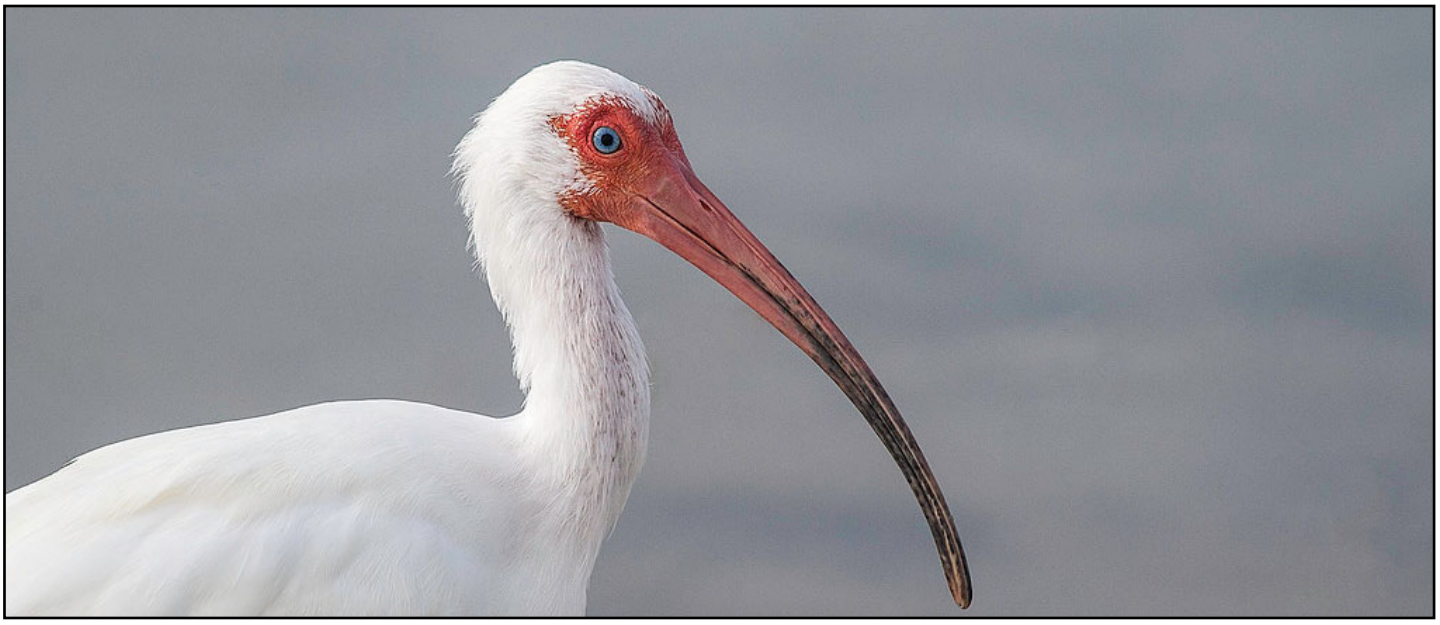
Imperiled Species Management

Goal: Maintain, improve or restore imperiled species populations and habitats.

Objective: Monitor and document imperiled plant and animal species in the park

Continued monitoring of Johnson's seagrass will take place from a mitigation project of a former borrow area. An annual assessment will take place to determine amount of seagrass coverage. Sparse amounts of gopher tortoises are found within the park's spoil areas, most likely through unofficial releases. Efforts should be made to monitor the gopher tortoise population in accordance with FWC guidelines. In 2018, an American crocodile was spotted within the park's mangrove swamp. Park staff will routinely monitor park boundaries for new sightings of crocodiles. As of April 2022, Johnson's seagrass is in the process of being delisted as an imperiled plant. Additional imperiled species at Oleta River State Park include:

- Cassius blue butterfly
- Cinnamon bark
- Florida sandhill crane
- Inkberry
- Golden leather fern
- Osprey



OLETA RIVER STATE PARK
Unit Management Plan
Executive Summary
Management Goals & Objectives
Recreational Use & Infrastructure

Recreation and Facilities Management

Goal: Develop and maintain use areas and support infrastructure

Park Entrance

- Improve Landscaping

Beach Use Areas (2)

- Restroom Renovations
- Landscaping Improvements
- Replace Fishing Pier
- Update Playground

Support Area

- New Shop Building
- Add Pole Barns (3)
- Small Administrative Office
- Reorganize Support Area

Intracoastal Picnic Area

- New Fishing Pier

Concession Area

- Renovate/ expand concession building
- Path Development
- Interpretive Panel

Cabin Area

- Cabin renovations / replacement
- Road Stabilization
- Volunteer site

Residence Area

- New residences (2)

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LIST OF ADDENDA

INTRODUCTION

Oleta River State Park protects over 1,032 acres of natural communities that include a mosaic of mangrove swamps, ponds, and lagoon. Considered Florida's largest urban park, it is located only 30 minutes from bustling downtown Miami.

The park's name sake, the Oleta River, is the only remaining river in Miami–Dade County not having been dredged or channelized for development purposes. Spanning over seven miles, the river allows fresh water to mix with the Atlantic Ocean.

Visitors can enjoy a wide array of recreational activities, including kayaking through a stretch of mangroves and riding 15 miles of mountain biking trails. A formerly dredged lagoon allows visitors enjoy the water, especially on a hot day. Camping can be done through one of the parks many primitive cabins.

Acquisition History

Oleta River State Park was initially acquired on June 6, 1980 using funds from the P200 A & I Program. Currently, the park comprises 1,032.78 acres. The Board of Trustees of the Internal Improvement Trust Fund (Trustees) hold fee simple title to the park and on June 6, 1980, the Trustees leased (Lease Number 3154) the property to DRP under a 50-year lease. The current lease will expire on June 9, 2030 (see Addendum 1).

Oleta River State Park is designated single use to provide public outdoor recreation and conservation. There are no legislative or executive directives that constrain the use of this property. A legal description of the park property can be made available upon request to the Department of Environmental Protection.

Unit Classification

Oleta River State Park is classified as a recreational area in the DRP's unit classification system. In the management of a State Park, a balance is sought between the goals of maintaining and enhancing natural conditions and providing various recreational opportunities. Natural resource management activities are aimed at management of natural systems. Development in the park is directed toward providing public access to and within the park, and to providing recreational facilities, in a reasonable balance, that are both convenient and safe. Emphasis is on interpretation on the park's natural, aesthetic, and educational attributes.

Purpose and Scope of the Plan

This plan serves as the basic statement of direction for the management of Oleta River State Park as a unit of Florida's state park system. It identifies the goals, objectives, and actions that guide each aspect of park administration and sets forth the specific measures that will be implemented to meet management objectives. The plan is intended to meet the requirements of Sections 253.034 and 259.032, Florida Statutes, Chapter 18-2, Florida Administrative Code, and is intended to be consistent with the State Lands Management Plan. The plan consists of three interrelated components: The Resource Management Component, the Land Use Component and the Implementation Component. Upon approval, this management plan will replace the 2008 approved plan.

Park Interpretation

Interpretation is a mission-based communication process that forges emotional and intellectual connections between the interests of the audience and meanings inherent in the resource. Interpretive themes are the key concepts for communicating the meanings inherent in a Florida State Park. A central park theme is a short, dynamic interpretive statement that reflects the significance of a park by highlighting distinctive features and essential visitor experiences. In addition, each park has primary interpretive themes. These themes serve as a starting point for park staff to plan interpretive and educational content by outlining the main stories of the park's natural and cultural resources. Further interpretive planning can branch off from these themes but should ultimately help reinforce the main interpretive messages of the park.

Central Park Theme

Oleta River State Park is restoring wild Miami along the shores of Biscayne Bay, where communities have gathered long before the area became a modern metropolis.

Primary Interpretive Themes

Park History
People have gathered along the water's edge for the opportunity to hunt and fish South Florida's natural diversity, beginning with the Tequesta people thousands of years ago.

Hydrology
Oleta River feeds into regionally significant Biscayne Bay, but hydrological alterations have permanently changed this from fresh to a saltwater environment.

Natural Communities
Just like the bustling city, Oleta River's vibrant mangrove forests are filled with diverse life and provide valuable ecosystem services to the surrounding communities.

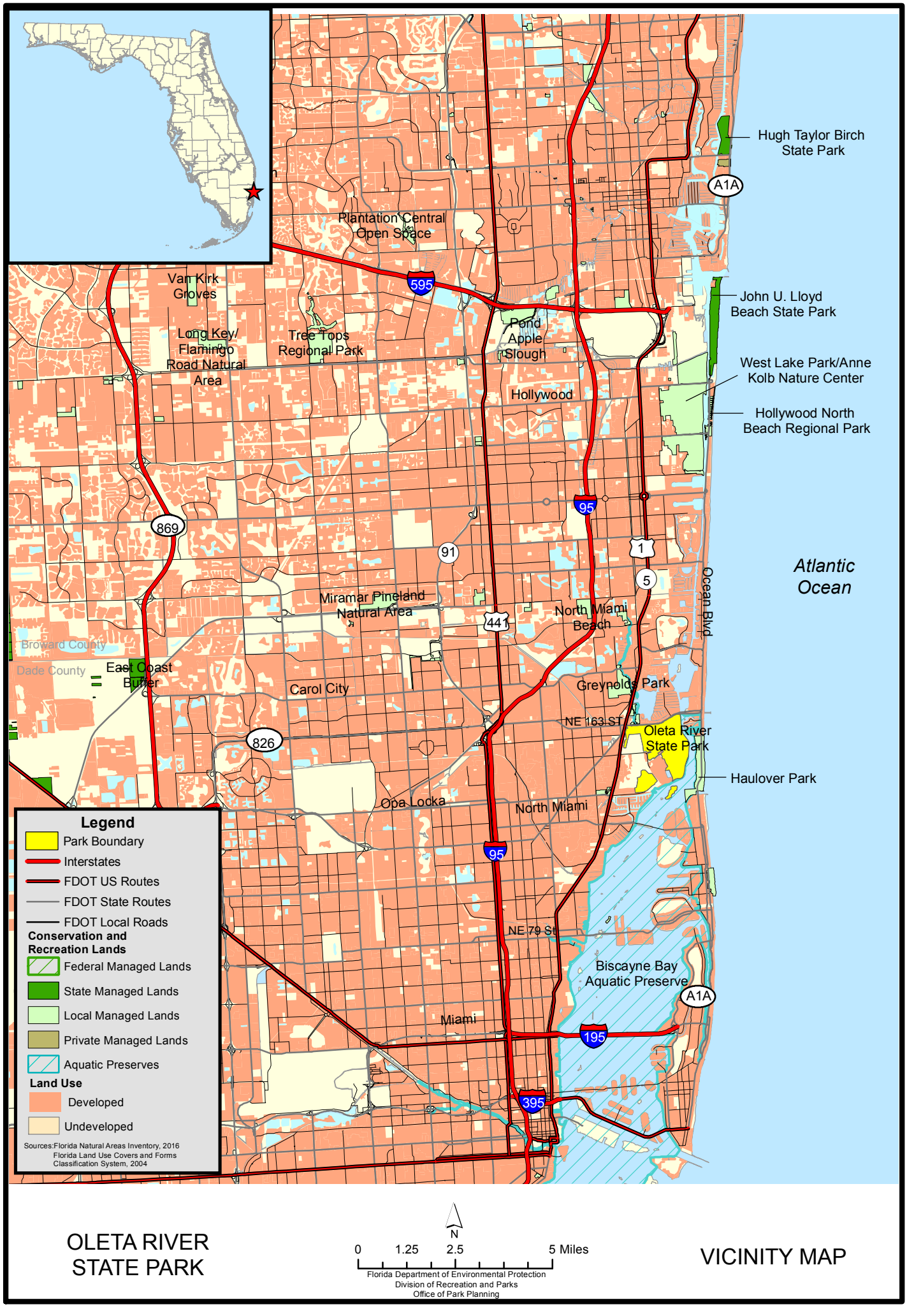
Restoration Efforts
Although human action and development have altered the land, park staff and partners work to restore habitats so that the park can be a refuge for future generations of people and animals.

Interpretive Application

Interpretation is a DRP priority for the inherent value of visitor engagement and as a tool for promoting stewardship and conservation. Interpretation also plays an important role in achieving many other park management objectives.

Non-Personal Interpretation
Interpretive elements which do not require a person to deliver a message (signs, exhibits, brochures, kiosks, etc.).

Personal Interpretation
One person or persons providing interpretation to another person or persons. It can be planned or impromptu.



OLETA RIVER STATE PARK

VICINITY MAP

General Park Management Goals

The following park goals express DRP's long-term intent in managing the state park:

- Provide administrative support for all park functions
- Protect water quality and quantity
- Restore hydrology to the extent feasible and maintain the restored condition.
- Restore and maintain the natural communities/habitats
- Maintain, improve, or restore imperiled species populations and habitats
- Remove exotic and invasive species and conduct needed maintenance-control
- Protect, preserve and maintain the cultural resources
- Provide public access and recreational opportunities
- Develop and maintain necessary capital facilities and infrastructure

Secondary and Incompatible Uses

In accordance with 253.034(5) F.S., the potential of the park to accommodate secondary management purposes was analyzed. These secondary purposes were considered within the context of DRP's statutory responsibilities and the resource needs and values of the park. This analysis considered the park's natural and cultural resources, management needs, aesthetic values, visitation and visitor experiences. For this park, it was determined that no secondary purposes could be accommodated in a manner that would not interfere with the primary purpose of resource-based outdoor recreation and conservation.

DRP has determined that uses such as, water resource development projects, water supply projects, stormwater management projects, linear facilities and sustainable agriculture and forestry (other than those forest management activities specifically identified in this plan) would not be consistent with this plan or the management purposes of the park and should be discouraged.

In accordance with 253.034(5) F.S. The potential for generating revenue to enhance management was also analyzed. Visitor fees and charges are the principal source of revenue generated by the park. It was determined that multiple-use management activities would not be appropriate as a means of generating revenues for land management. Instead, techniques such as entrance fees, concessions and similar measures will be employed on a case-by-case basis as a means of supplementing park management funding.

Contract Services

The DRP may provide the services and facilities outlined in this plan either with its own funds and staff or through an outsourcing contract. Private contractors may provide assistance with natural resource management and restoration activities or a concessionaire may provide services to park visitors in order to enhance the visitor experience. A concessionaire may also be authorized to provide specialized services when the required capital investment exceeds that which DRP can elect to incur. Decisions regarding outsourcing, contracting with the private sector, the use of concessionaires, etc. are made on a case-by-case basis in accordance with the policies set forth in DRP's Operations Manual (OM).

Public Participation

DRP provided an opportunity for public input by conducting a public advisory group meeting to present the draft management plan to the public. This meeting was held on March 9, 2022. Meeting notices were published in the Florida Administrative Register, [2/23/2022, 48/37], included on the Department Internet Calendar, posted in clear view at the park, and promoted locally. The purpose of the Advisory Group meeting is to provide the Advisory Group members an opportunity to discuss the draft management plan (see Addendum 2).

Management Authority and Responsibility

In accordance with Chapter 258, Florida Statutes and Chapter 62D-2, Florida Administrative Code, the Division of Recreation and Parks (DRP) is charged with the responsibility of developing and operating Florida's recreation and parks system. These are administered in accordance with the following policy:

> *It shall be the policy of the Division of Recreation and Parks to promote the state park system for the use, enjoyment, and benefit of the people of Florida and visitors; to acquire typical portions of the original domain of the state which will be accessible to all of the people, and of such character as to emblemize the state's natural values; conserve these natural values for all time; administer the development, use and maintenance of these lands and render such public service in so doing, in such a manner as to enable the people of Florida and visitors to enjoy these values without depleting them; to contribute materially to the development of a strong mental, moral, and physical fiber in the people; to provide for perpetual preservation of historic sites and memorials of statewide significance and interpretation of their history to the people; to contribute to the tourist appeal of Florida.*

The Board of Trustees of the Internal Improvement Trust Fund (Trustees) has granted management authority of certain sovereign submerged lands to the DRP under Management Agreement MA 68-086 (as amended January 19, 1988). The management area includes a 400-foot zone from the edge of mean high water where a park boundary borders sovereign submerged lands fronting beaches, bays, estuarine areas, rivers or streams. Where emergent wetland vegetation exists, the zone extends waterward 400 feet beyond the vegetation. The agreement is intended to provide additional protection to resources of the park and nearshore areas and to provide authority to manage activities that could adversely affect public recreational uses.

Many operating procedures are standardized system-wide and are set by internal direction. These procedures are outlined in the OM that covers such areas as personnel management, uniforms and personal appearance, training, signs, communications, fiscal procedures, interpretation, concessions, public use regulations, resource management, law enforcement, protection, safety and maintenance.

Management Coordination

The park is managed in accordance with all applicable laws and administrative rules. Agencies having a major or direct role in the management of the park are discussed in this plan.

The Florida Department of Agriculture and Consumer Services (FDACS), Florida Forest Service (FFS), assists DRP staff in the development of wildfire emergency plans and provides the authorization required for prescribed burning. The Florida Fish and Wildlife Conservation Commission (FWC) assists staff in the enforcement of state laws pertaining to wildlife, freshwater fish and other aquatic life existing within the park. In addition, the FWC aids DRP with wildlife management programs, including imperiled species management. The Florida Department of State (FDOS), Division of Historical Resources (DHR) assists staff to ensure protection of archaeological and historical sites.

Other Designations

Oleta River State Park is not within an Area of Critical State Concern as defined in Section 380.05, Florida Statutes, and it is not presently under study for such designation. The park is a component of the Florida Greenways and Trails System, administered by the Department's Office of Greenways and Trails.

All waters within the park have been designated as Outstanding Florida Waters, pursuant to Chapter 62-302, Florida Administrative Code. Surface waters in this park are also classified as Class III waters by the Department. This park is adjacent to the Biscayne Bay Aquatic Preserve, as designated under the Florida Aquatic Preserve Act of 1975 (Section 258.35, Florida Statutes).

Resiliency Planning

Climate-related shocks and stressors present new challenges to the Florida Park Service mission of providing resource-based recreation while preserving, interpreting, and restoring natural and cultural resources.

Parks will adapt to climate threats with prescriptive strategies to minimize and manage the impacts of more severe storms and droughts, sea-level rise, invasive organisms, and other emerging environmental disturbances. Resilience strategies will be incorporated in all park plans and resource management decisions.

RESOURCE MANAGEMENT COMPONENT

The DRP has implemented resource management programs for the perpetual preservation of representative examples of the state's significant natural and cultural resources. This component of the plan describes the natural and cultural resources of the park and identifies the methods that will be used to manage them.

The DRP's resource management philosophy is guided by the principles of natural systems management. Primary emphasis is placed on restoring and maintaining the natural processes that shaped the structure, function, and species composition of Florida's diverse natural communities as they occurred in the original domain. Single species management for imperiled species can be accommodated and should be compatible with the maintenance and restoration of natural processes.

The DRP's management goal for cultural resources is to preserve sites and objects that represent Florida's cultural periods, significant historic events, or persons contributing to the history of Florida. This goal often entails active measures to stabilize, reconstruct, restore, or rehabilitate cultural resources. Appropriate public use of cultural resources will be considered according to the park's unit classification and sensitivity of resources.

Park units are often components of larger ecosystems and proper management can be affected by conditions that occur beyond park boundaries. Ecosystem management is implemented through an evaluation program that assesses resource conditions, refines management activities, and reviews development permit applications for park impacts.

The entire park is divided into management zones that delineate areas on the ground that are used to coordinate management activities (see Management Zones Map). The shape and size of each zone may be based on natural community type, burn zone, and the location of existing roads and fire breaks.

Management Goals, Objectives and Actions

Measurable objectives, and actions have been identified for each of the DRP's management goals for Oleta River State Park. The goals, objectives, and actions identified in this management plan will serve as the basis for developing annual work plans for the park. The annual work plans provide the flexibility needed to adapt to future conditions as they change during the ten-year management planning cycle. As the park's annual work plans are implemented through the ten-year cycle, it may become necessary to adjust the management plan's priority schedules and cost estimates.

Topography

Oleta River State Park borders the shoreline of North Biscayne Bay in south Florida. The original topographical conditions of the site have undergone extensive changes overtime. Before 1925, the area consisted of a wide band of mangroves bordering Biscayne Bay, backed by a freshwater marl prairie (Harlem 1979; Teas 1976). Original elevation of these wetlands was 0 to +1 feet mean sea level (msl). Three small fresh-water ponds, 0.5 to 2.0 feet deep, were located in the marsh. Less than one acre of the park was above the intertidal zone. These uplands consisted of small hammock islands scattered within the wetlands. In 1935 and 1936 numerous mosquito ditches, one to two feet deep were dug throughout the mangroves. From 1962 to 1964 approximately half of the area that is now the state park was dredged and filled for the Interama project, creating

uplands south of the Oleta River and an open water lagoon and canals at the extreme south end of the park. The ponds were filled, although a small remnant of one remains. Average elevation of the filled uplands is approximately five feet above msl. The undeveloped uplands of the park are presently dominated by non-native invasive vegetation (i.e., Australian-pine, Burma reed, etc.) and composed of fill material of various sizes, shapes, and heights. Some are as high as 20 feet. There are also several long narrow canals located throughout the park. Some of these are connected to the open water of the lagoon while others are isolated and non-circulating. These canals are 10 to 20 feet wide and vary in elevation from 0 to -5 feet msl. Elevation of the remaining mangrove forest east of the park road and bordering the Oleta River ranges between 0 and +1 foot msl.

Geology

The sediments of South Florida are dominated by limestone and dolostone (USDA1996). Oleta River State Park is located on a former floodplain situated between the Atlantic Coastal Ridge and Biscayne Bay. The Atlantic Coastal Ridge is a narrow-elevated ridge of porous limestone bedrock that extends along the Atlantic coast of Florida south to Long Pine Key in Everglades National Park (Hoffmeister 1976). Near the park, the ridge is located in close proximity to the shoreline. Water from the Everglades was contained by this ridge, flowing out through natural gaps at river openings and sloughs into the bays. Oleta River represents one of these historic outflows from the Everglades. The geological formation underlying the river and adjacent park land is Miami limestone. Originating 100,000 years ago during the Pleistocene Epoch, the oolitic bedrock was formed by layered deposition of calcium carbonate sand grains known as ooids. Miami oolite occurs five to six feet below the undisturbed soil surface. Dredging of the lagoon, canals, and mosquito ditches fragmented the continuous Miami limestone bedrock.

Table 1. Oleta River State Park Management Zones

Management Zone	Acreage	Managed with Prescribed Fire	Contains Known Cultural Resources
OLR-01	155	No	No
OLR-02	198	No	Yes
OLR-03	115	No	No
OLR-04	12	No	No
OLR-05	34	No	No
OLR-06	16	No	No
OLR-07	58	No	No
OLR-08	65	No	No
OLR-09	68	No	No
OLR-10	45	No	No
OLR-11	12	No	No
OLR-12	36	No	No
OLR-13	25	No	No
OLR-14	129	No	No
OLR-15	28	No	No
OLR-16	13	No	No
OLR-17	17	No	No

OLETA RIVER STATE PARK
Management Zones

N

0 1,000 2,000 Feet

User: Harrison_B
Folder: G:\PARKS\Oleta River State Park\Projects\UMP\Management_Zones\
Sources: ESRI; Florida Department of Environmental Protection
This graphical representation is provided for informational purposes and should not be considered authoritative for navigational, engineering, legal, and other uses.

OLETA RIVER STATE PARK
Soils Map

N

0 1,000 2,000 Feet

This graphical representation is provided for informational purposes and should not be considered authoritative for navigational, engineering, legal, and other uses.

Soils

According to the Natural Resources Conservation Service (USDA 1996), there are five soil types in this park (see Soils Map). Soils beneath the mangrove forest bordering Biscayne Bay, Oleta River, and an isolated triangular shaped mangrove area are classified as tidal Terra Ceia muck. This deep (80 inch. or more) poorly drained, highly permeable soil is typically found in tidal swamps and marshes and is of organic origin.

Natural vegetation usually consists of red and black mangroves. Tidal Pennsuco marl was identified within a small portion of the eastern fringe mangrove forest. This soil differs from Terra Ceia in being slightly shallower (approx. 50 inches deep) and of marl origin. Tidal Perrine marl occurs in the northwest corner of the park. The soil consists of marl approximately 26 inches deep. In contrast to the other two soil types, it has moderately slow permeability. The natural vegetation of the two marl-based soils usually consists of scattered and stunted red mangroves. At Oleta River, however, both areas with this soil type were colonized by non-native invasive vegetation. Most of the current uplands of the park are classified as Udorthents - water complex. This soil type consists of crushed limestone fill material that was dredged during excavation of the nearby lagoon, ditches, canals, and Intracoastal Waterway and deposited over existing wetlands. Fragments of calcareous mollusks are also contained in the fill. There are two areas in the northeast and northwest sections of the park that are classified as Urban. The USDA and the Florida Park Service have discussed the validity of this classification and the presence of this soil type within park boundaries. The USDA has agreed to update their spatial layer for this site by removing the urban layer classification.

Minerals

No known minerals of commercial value occur at Oleta River State Park.

Hydrology

In South Florida, the source of fresh groundwater is the Biscayne Aquifer. It is recharged by rainfall primarily during the wet summer seasons. Historically, as water levels increased during the wet season, water flowed east out of the Everglades through natural channels in the Atlantic Coastal Ridge. Near the park, water flowed from the Everglades into Biscayne Bay through the Oleta River, Snake Creek to the northwest and Arch Creek to the south. The wetlands surrounding Oleta drained into the river through a series of small creeks. Before 1925, the Oleta River and North Biscayne Bay were predominantly freshwater systems. Salinity at that time in the river was reported to be approximately 4 ppt.

In the early 1900s, after Congress passed the Swamp and Overflowed Lands Grant Act, drainage districts were formed and by the late 1920s much of what was once considered wetlands in South Florida, was drained by numerous canals designed to reclaim land. South Florida’s wetlands have also suffered secondary impacts from human development pressures. The alteration of Southeast Florida’s hydrology by the elaborate canal systems designed to protect residents from flooding has impacted wetlands by decreasing the hydrology necessary for maintaining wetland plant species. Pollutants from storm runoff on streets and highways combined with the use of fertilizers and pesticides have increased the nutrients introduced into surface waters and degraded the water quality that supports wetland plant species. Another impact has been the introduction of non-native plant species. Two well-known non-native invasive, the

Melaleuca and Brazilian pepper trees, have overgrown wetland areas. Their rapid growth chokes out native species and decreases the habitat value of the wetlands. This canal system plus the urbanization of North Miami significantly reduced the overall amount of freshwater runoff into the bay. Snake Creek was converted to Snake Creek Canal that drains into Oleta River north of 163rd Street. In 1925, Baker's Haulover Cut was dredged through Miami Beach, connecting North Biscayne Bay and the Atlantic Ocean, increasing saltwater flow into the bay. In 1935 and 1936, extensive mosquito ditches were cut through the wetlands of what is now park property, allowing saltwater intrusion further inland. The combination of these hydrological alterations converted Oleta River and the associated wetland communities from a freshwater to brackish water system. Current salinity conditions in the river vary greatly due to management of the upstream canal by the South Florida Water Management District. In recent years salinity has fluctuated between 7 and 34 ppt, averaging 25 ppt. Salinity in North Biscayne Bay is more consistent, ranging between 26 and 35 ppt and averaging 30 ppt.

In addition to management by the Florida Park Service, the Oleta River and the adjacent area of Biscayne Bay is also managed as part of Biscayne Bay Aquatic Preserve. These waters, as well as all park waters, are classified as Outstanding Florida Waters. Although the designation as Outstanding Florida Water is intended to protect the water quality of the system and prevent degradation of the water quality in the system, the quality of water in the Oleta River and adjacent Biscayne Bay is degraded due to stormwater runoff in a densely developed urban area, sewage spills from sewer pipe breaks and leaching of toxic pollutants from marinas and the adjacent Munisport Landfill, a former landfill identified as an EPA superfund site.

Hydrological Management

Goal: Protect water quality and quantity in the park, restore hydrology to the extent feasible and maintain the restored condition.

An important responsibility for surface water management at the park is to maintain and, if feasible, improve the estuarine nursery grounds and reduce nutrient input into surrounding waters. Hydrological features that influence the park's ecosystem extend beyond the boundaries and jurisdiction of the park. Staff works in partnership with other agencies to ensure that the water quality of the park is maintained at acceptable levels.

Objective A: Restore and improve water flow to isolated mangrove swamps and reduce flooding in developed areas.

Action 1	Restore tidal flow to two isolated mangrove wetlands totaling 26.7 acres of stressed, dead or dying red mangroves by adding, replacing, and repairing existing culverts.
Action 2	Maintain culverts according to recommended operation and maintenance plan to allow culverts to continue to function significantly in accordance with the design.

This project will target two mangrove die-off areas comprised of predominantly red mangroves with whites and black mangroves mixed in. The die-off area (zone OLR16) just east of the shop has no connection to Biscayne Bay or other connected waterways, and thus has no tidal exchange or salinity fluctuations as a result of insufficient and clogged culverts. Under current conditions, this area will likely completely die in the near future, risking peat collapse which will render the area un-restorable. The second die-off

area is just to the north of the boundary with FIU, and to the west of the FWC building. It became stressed when an existing culvert became clogged in 2016. Since then, areas of stressed and dead mangroves have expanded.

To accomplish this goal, first, feasibility studies will be conducted to assess the conditions of current culverts (i.e. locate them and determine if they can be returned to functionality through maintenance or if they need to be replaced). It is anticipated that 2 to 3 culverts will need to be cleared and/or replaced to restore adequate flow to die-off area 1. Die-off area 2 did not begin to show stress until the existing culvert became clogged, thus restoration of this area will likely be achieved by clearing the existing culvert. Monitoring will be done to assess if success criteria are being met for project objectives, including vegetation surveys to be conducted before, during, and after the project to assess mangrove density and survival and the frequency of exotic vegetation in the mangrove swamp. Water quality improvement will be measured by collecting water quality data (salinity, DO) in & out of swamp, before, during, and after project. Benefits to wildlife will be measured by assessing salt marsh snake and Florida prairie warbler populations both pre and post project. *The feasibility study and design has recently been completed.* As of March 2022 FDEP, is in the process of obtaining appropriate permits to begin work on the culverts.

Monitoring will be conducted by FDEP park biologists, PBAU researchers, FIU researchers, and FWC staff. FDEP park staff will continue the monitoring program for at least an additional 2 years following the conclusion of this project.

Objective B: Monitor and analyze water resources at the park.

Action 1	Maintain communication with Miami Department of Environmental Resource Management staff on recent water quality test results.
Action 2	Park and district staff should assist in the development, review, and comment of local government comprehensive plans, developments of regional impact and existing and proposed land use activities that could affect the environmental integrity of park waters.

Objective C: Conduct hydrological study to identify additional needs.

Action 1	Identify additional mangrove swamp which would benefit from restored tidal flow.
Action 2	Identify solutions to flooding issues within developed areas.

Florida's native habitats are precisely adapted to natural drainage patterns and seasonal water level fluctuations and variations in these factors frequently determine the types of natural communities that occur on a particular site. Restoring state park lands to original natural conditions often depends on returning natural hydrological processes and conditions to the park. This is done primarily by filling or plugging ditches, removing obstructions to surface water "sheet flow," installing culverts or low-water crossings on roads and installing water control structures to manage water levels. Due to ditching and historic hydrological alteration at Oleta River State Park, there may be additional opportunities to improve mangrove habitat through improved water flow.

Currently flooding is known to occur within the shop compound, the road leading into the shop, and several parking lots during extended and extreme rain and storm events.

Natural Communities and Altered Landcovers

This section of the management plan describes and assesses each of the natural communities found at the park. It also describes of the desired future condition (DFC) of each natural community and identifies the actions that will be required to bring the community to its desired future condition. The system of classifying natural communities employed in this plan was developed by the Florida Natural Areas Inventory (FNAI). The premise of this system is that physical factors such as climate, geology, soil, hydrology, and fire frequency generally determine the species composition of an area, and that areas that are similar with respect to those factors will tend to have natural communities with similar species compositions. Obvious differences in species composition can occur, however, despite similar physical conditions. In other instances, physical factors are substantially different, yet the species compositions are quite similar. Some physical influences, such as fire frequency, may vary from FNAI's descriptions.

Mangrove Swamp – 462.03 acres

Desired future condition: Mangrove swamp is a dense forest occurring along or connected to relatively flat, low wave energy, marine and estuarine shorelines. The dominant plants of mangrove swamp are red mangrove (Rhizophora mangle), black mangrove (Avicennia germinans), white mangrove (Laguncularia racemosa), and buttonwood (Conocarpus erectus). These four species can occur either in mixed stands or often in differentiated, monospecific zones that reflect varying degrees of tidal influence, levels of salinity, and types of substrate (Odum and McIvor 1990). Red mangrove often dominates the lowest (or deep-water) zone, followed by black mangrove in the intermediate zone, and white mangrove and buttonwood in the highest, least tidally influenced zone. Buttonwood often occupies an ecotone, or transition zone, to the adjacent upland community (Odum et al. 1982). Temperature, salinity, tidal fluctuation, substrate, and wave energy are five physical factors influencing the size and extent of mangrove swamps. Water fluctuations, both fresh- and saltwater, help shape mangrove swamp systems. Freshwater, through runoff from adjacent uplands or from rivers, flushes salt from the swamp and delivers needed nutrients, while tidewaters push mangrove propagules landward and reduce competition by freshwater species (Odum and McIvor 1990). The long-lived floating mangrove propagules are dispersed by water and require a relatively short time for root development allowing them to establish quickly in new areas (Odum and McIvor 1990). Waves along high energy coastlines discourage mangrove establishment and reduce anaerobic sediment accumulation, in which mangroves thrive (Odum and McIvor 1990).

Table 2. Natural Communities and Altered Landcover Types		
Natural Communities	**Acreage**	**Percentage**
Mangrove Swamp	462.03	44.7%
Marine Unconsolidated Substrate	154.85	14.99%
Maritime Hammock	47.36	4.6%
Marine Consolidated Substrate	11.2	1.1%
Beach Dune	2.38	0.23%
Altered Landcovers	**Acreage**	**Percentage**
Spoil Area	302.13	29.25%
Developed	49.25	4.76%
Artificial Pond	2.59	0.50%
Canal/ Ditch	2.53	0.24%
Total Acreage	**1,032.78**	

OLETA RIVER STATE PARK
Existing Conditions

N

0 1,000 2,000 Feet

Sources: ESRI; Florida Department of Environmental Protection
This graphical representation is provided for informational purposes and should not be considered authoritative for navigational, engineering, legal, and other uses.

In addition to providing habitat for many rare species (listed above), mangrove swamps function as nursery grounds for many of Florida's commercially and recreationally important fish and shellfish such as common snook (Centropomus undecimalis), shrimp, several species of grouper, and snapper (Thayer et al. 1987; Hettler, Jr. 1989). Mangrove swamps and isolated mangrove islands also provide important roosting and nesting areas for substantial populations of wading birds and shorebirds. Riverine mangrove forests are typically found along tidal streams and rivers.

Productivity is high in riverine forests as detritus and other sources of nutrients are constantly being flushed in and out of the system from upstream flow during tidal fluxes. Riverine forests exhibit high degrees of seasonal variability in salinity (Odum etal., 1982). These forested wetlands are also important nursery areas for the juvenile stage of many important recreational and commercial fish such as mullet, sheepshead, tarpon, snook, and several species of grunts and snappers. Fringed mangrove wetlands typically occur along the edges of bays and lagoons. Fringed mangroves are characterized as having clearer water, sandier substrate, and lower fluctuations in salinity (Odum et al., 1982). This type of mangrove forest has lower diversity than other mangrove wetlands but adds to habitat diversity within the relatively homogenous bay system. In addition, fringed mangrove forests act as buffers to protect the adjacent ecotone and associated upland from storms and erosion.

Description and assessment: Historically, mangrove swamp existed only along the shoreline of Biscayne Bay. The major hydrological changes that occurred to the area in the early 1900s, however, caused mangroves to encroach on the freshwater marl prairie. By 1956, these wetlands had developed dense stands of red, white, and black mangroves. Approximately half of this community was destroyed by dredging and filling activities associated with the Interama project in the 1960s. This is the largest tidal swamp community remaining along Biscayne Bay north of MacArthur Causeway. The two types of tidal swamp occurring at the park are riverine and fringe forests. There are also several small isolated mangrove areas. A wide band of riverine forest lines the Oleta River. The forest canopy is dominated by tall red mangroves (Rhizophora mangle) 25 to 50 feet in height. White mangroves (Laguncularia racemosa) occur less frequently. The understory consists primarily of red and white mangrove seedlings. The mangroves along the river became established after the creation of Haulover Cut in 1925. Aerial photographs indicate that the river was densely lined with small mangroves by 1945. Their great height in a relatively short time is indicative of the high nutrient load in the river. In the 1960s, a large marina operated adjacent to the river on what was known as the Terama tract. Toxic chemicals from the marina may be a source of localized contamination to the mangrove community.

General management measures: Major threats to this community include erosion from the high volume of vessel traffic, lack of appropriate water flow due to altered hydrology, and degradation of water quality by point and non-point pollution sources. DRP will continue to work with and support efforts by the FWC to regulate vessel speed within Biscayne Bay and the Oleta River. Storm water runoff from the urbanized areas surrounding the park and the freshwater discharge from drainage canals entering the surrounding waterways have the potential to adversely impact water quality. Large volumes of surface water high in nutrients such as nitrogen and phosphorous flowing into the estuarine system of the park could alter this system by causing eutrophication and a change in species composition. A hydrological assessment should be conducted to maximize water flow and connectivity between isolated areas of mangrove swamp and the main bodies of water. The park will continue to enforce and utilize state and federal

regulations and designations to protect these valuable natural resources. Mangroves are designated as essential fish habitat and areas of particular concern (HAPC) by the South Atlantic Fishery Management Council. HAPCs are rare, particularly susceptible to human-induced degradation, ecologically important, and most often found in an environmentally stressed area.

Marine Unconsolidated Substrate -154.85 acres

Desired future condition: Marine unconsolidated substrates are characterized as expansive, relatively open areas of subtidal, intertidal, and supratidal zones that lack dense populations of sessile plant species. Unconsolidated substrates are unsolidified material and include coral, algae, marl, mud, mud/sand, sand or shell. This community may support a large population of infaunal organisms as well as a variety of transient planktonic and pelagic organisms. While these areas may seem relatively barren, the densities of infaunal organisms in subtidal zones can be quite numerous, making this habitat an important feeding ground for many bottom-feeding fish. Unconsolidated substrates are important because they form the foundation for the development of other marine communities.

Description and assessment: The substrate of the sandy swimming beach, river and the shallow bay waters along the eastern and southern shoreline of the park, along with the substrate of connected canals and narrow waterways, is composed of this benthic community. The river and shallow bay waters support sparse amounts of seagrass, primarily shoal grass (Halodule wrightii) and manatee grass (Syringodium filiforme), as well as a mixture of macroalgae, Caulerpa sertularoides, C. verticillata, Acetabularia sp., Johnson's seagrass (Halophila johnsonii) is found in shallow waters within management zone OL-08 on this substrate. Although the community has a sparse cover of epifaunal animals and plants, the sediment supports a large population of infaunal organisms that are not readily visible, such as worms, mollusks, isopods, and amphipods. Sparse corals occur on boulders which lay on the bottom of the main beach along the buoy line, including Siderastrea sidereal, Siderastrea radians, Dichocoenia stokesi, Pseudodiploria strigose, and Pseudodiploria clivosa.

Mullet (Mugil cephalus), tarpon (Megalops atlantica), pinfish (Lagodon rhomboides), and several species of grunt, porgy, and snapper forage in the river and nearshore bay waters. The Florida manatee (Trichechus manatus latirostris) is frequently observed in the river, bay, and lagoon during the winter months. Wading birds forage along the river and bay shoreline. This community is currently in good condition. It is sensitive to benthic disturbances that may occur from dredging, storms, and boat wakes. It is a dynamic community, however, which re-colonizes readily with invertebrates.

General management measures: To achieve the desired future condition of the unconsolidated substrate, navigation markers and the "No Motor Zone", signs will continue to be maintained to protect the shallow submerged resources. The "No Motor Zones" will include electric and intake motors and would allow hand-propelled craft only. Seagrass monitoring should be continued within the mitigation area in OLR-08 just to the north of the main beach to monitor percent seagrass coverage. Ideally, seagrass monitoring will take place annually, as staff and funding resources allow. It will be important to exclude all motorized craft, including intake and electric motors, from this area in order to protect submerged resources.

Periodic coral monitoring should take place along the buoy line of the main beach where boulders are laid across the bottom, with an aim to document coral species and general health once annually as staff and funding allows.

Beach Dune-2.38 acres

Desired future condition: The desired future condition of beach dune habitat at Oleta River State Park is a predominantly herbaceous community of wide-ranging coastal specialist plants on the vegetated upper beach.

Description and assessment: This area is located along the southeast shoreline of the dredged lagoon. This area was cleared of non-native invasive vegetation and regraded in 1988 to create a beach, swimming area and coastal berm. The representative dune is narrow and of relatively low profile. The strip of vegetation bordering the sandy swim beach was planted with native vegetation typical of a sand dune community, including beach sunflower (Helianthus debilis), railroad vine (Ipomoea pes-caprae), and necklace pod (Sophora tomentosa). Although this restoration project was successful, resulting in a representative beach and dune community in good condition, it is threatened by increased visitation to the park. Foot traffic is the primary threat to this restored representative beach dune area. Additional signage and a border may be necessary to reduce and prevent further impacts. For additional information, see Visitor Use Management within the Land Use Component.

General management measures: Management of this beach dune natural community include treatment and maintenance of non-native invasive vegetation and the protection of the representative beach dune species which have been planted from foot traffic and additional future development.

Maritime Hammock – 47.36 acres

Desired future condition: The desired future condition of this upland spoil area that has been restored is a community representative of maritime hammock. Poor quality of soil derived from fill material makes it difficult for this area to function as a true natural maritime hammock, though species representative of maritime hammock has been planted to the extent possible. Efforts should be made to maintain the area free of non-native invasive vegetation and protect the maritime representative vegetation which has been planted.

Description and assessment: Originally, there was no maritime hammock located within this park. All hammocks occurring in the park now and in the future represent reclaimed habitat. Currently the restoration area in the park has been restored from spoil area dominated by Australian pines to a community representative of maritime hammock. Along the east side of the park bordering the Intercoastal Waterway, nearly all the non-native invasive vegetation has been removed and replanted with native vegetation. However, due to the poor quality of soil derived from fill material, it is very difficult for hammock vegetation to prosper under the current conditions. Spoil area has also been restored on Sandspur Island. This spoil island had become colonized with Australian pines. In 1993, Miami Dade Division of Resource Management (DERM), with park support, coordinated and funded a restoration project on the island, clearing the non-native invasive vegetation and replanting with a diversity of native maritime hammock species. Another area surrounding one of the isolated mangrove impoundments in the mainland portion of the park was cleared and planted with hammock species in 1993 to

create a contiguous gradient from wetland to upland habitats. Transition species were planted along the ecotone of the two communities. Typical hammock species planted include seagrape (Coccoloba uvifera), pigeon plum (Coccoloba diversifolia), buttonwood (Conocarpus erectus), Spanish stopper (Eugenia foetida), and indigo berry (Randia aculeata). A variety of other species were also planted to increase diversity in the park. These include quailberry (Crossopetalum ilicifolium), inkwood (Exothea paniculata) black ironwood (Krugiodendron ferreum), and Simpson's stopper (Myrcianthes fragrans).

General management measures: Management of this maritime hammock natural community, both on the mainland and Sandspur Island, include treatment and maintenance of non-native invasive vegetation, trash removal, and the protection of the representative native maritime hammock species which have been planted from foot traffic and additional future development.

Marine Consolidated Substrate – 11.2 acres

Desired future condition: Marine and estuarine consolidated substrates are mineral based natural communities generally characterized as expansive, relatively open areas of subtidal, intertidal, and supratidal zones which lack dense populations of sessile plant and animal species. Consolidated Substrates are solidified rock or shell conglomerates and include coquina, lime rock or relic reef materials. These communities may be sparsely inhabited by sessile, planktonic, epifaunal, and pelagic plants and animals but house few infaunal organisms (i.e., animals living within the substrate).

Description and assessment: This benthic community is found in the southeastern portion of the park in the waters off Sandspur Island. Although it can be found around the entirety of the island, it is most prevalent along the eastern and southern shore. Here it extends from the shoreline to a depth of approximately 10 feet. The community is in relatively good condition but has been impacted from increased boater activity especially on the west side of Sandspur Island where there is an accessible beach with picnic tables. This area of the park is across from Haulover Cut, a man-made inlet that has greatly influenced the natural communities of upper Biscayne Bay by increasing the salinity through tidal flushing on a regular basis. Regular flushing has benefitted this natural community by providing nutrient rich waters that help to increase biodiversity in this portion of Biscayne Bay. Small colonies of the lesser starlet coral (Siderastrearadians) and patchy areas of seagrasses: turtle grass (Thalassia testudinum) and manatee grass (Syringodium filiform), in addition to macro algae (Caulerpa sp, Penicillus sp,Halimeda sp) provide important habitat to juvenile fish species. Common fish includeyellowfin mojarra (Gerres cinereus), cocoa damselfish (Stigates variabilis), yellow stingray (Urolophus jamaicensis), and jawfish (Opitognathus sp).

General management measures: Consolidated Substrates are important in that they form the foundation for the development of other Marine and Estuarine Natural communities when conditions become appropriate. Consolidated Substrate Communities are easily destroyed through siltation or placement of fill, and deliberate removal by actions such as blasting or nondeliberate destruction by forces such as vehicular traffic. Another potential type of disturbance involves the accumulation of toxic levels of heavy metals, oils, and pesticides in Consolidated Substrates. Significant amounts of these components in the sediments will kill the infauna, thereby eliminating a food source for certain fishes, birds and other organisms. A film of pollutants engulfing Consolidated Substrates can render these areas unsuitable for colonization by marine and estuarine flora and fauna. Such problems occur in some of the major port cities, in areas where

there is heavy industrial development, and along major shipping channels where oil spills are likely to occur. General management measures for consolidated substrate include protection from disturbance from siltation, outboard boat motors, and run-off of pesticides and fertilizers.

Artificial Pond – 2.59 acres

Desired future condition: The desired future condition of the artificial pond is to function as closely as possible to a natural freshwater marsh system for the benefit of migratory birds and other wildlife within the park.

Description and assessment: This community is a created 4-acre site on the western boundary of the park. It is representative of the freshwater ponds and marshes that were historically found in this area and have been lost. This man-made representative of freshwater marsh serves as an important resource for migrating and resident birds and other wildlife within the park. Several species of birds are regularly observed utilizing the marsh, including pied-billed grebe (Podilymbus podiceps), American coot (Fulica Americana), purple gallinule (Porphyrio martinicus), green heron (Butorides virescens), great blue heron (Ardea herodias), little blue heron (Egretta caerulea), and white ibis (Eudocimus albus). Plants found along the boundaries of the artificial pond include Flaveria linearis, Euphorbia cyathophora, Andropogon glomeratus, Bidens alba and Coccoloba uvifera.

General management measures: General management measures include the eradication of non-native invasive plants and the monitoring of migratory birds visiting this area.

Spoil Area – 302.13 acres

Desired future condition: This community currently does not have the defining characteristic for it to be classified as any typical natural community. Ideally, a majority of this area would be able through restoration to be defined as maritime hammock with the typical species associated with that community. Trees found in the canopy include gumbo limbo (Bursera simaruba), false mastic (Sideroxylon foetidissimum), inkwood (Exothea paniculata), white stopper (Eugenia axillaris), strangler fig (Ficus aurea) seagrape (Coccoloba uvifera), Spanish stopper (Eugenia foetida), poisonwood (Metopium toxiferum), blolly (Guapira discolor), Herbaceous groundcover will be very sparse or absent. Tropical shrubs include myrsine (Rapanea punctata), Simpson's stopper (Myrcianthes fragrans), marlberry (Ardisia escallonioides), wild coffee (Psychotria nervosa), snowberry (Chiococca alba), and white indigoberry (Randia aculeata).
Description and assessment: From 1962 to 1964, approximately half of the park area was dredged and filled for the Interama project, creating the uplands to the south of the Oleta River and the lagoon that provides about 80 acres of open water. Much of the park has spoil-derived soils. Portions of the spoil area are infested with non-native invasive vegetation, whereas other portions contain a mixture of non-native invasive and native herbaceous species. The canopy in these areas is dominated by Australian pine (Casuarina spp.). Burma reed (Neyraudia reynaudiana), Brazilian pepper (Schinus terebinthifolius), and beach naupaka (Scaevola tacada) are dominant species in the understory. The sparse amount of native vegetation occurring in these disturbed areas include strangler fig (Ficus aurea), lantana (Lantana involucrata), seagrape (Coccoloba uvifera), and fleabane (Pluchea spp.). The spoil varies in depth and quality and is the limiting factor for plant community recruitment and succession. Animals observed in these uplands include raccoons (Procyon lotor), grey fox (Urocyon cinereoargenteus),

eastern grey squirrel (Sciurus carolinensis), marsh rabbit (Sylvilagus palustris), gopher tortoise (Gopherus polyphemus), osprey (Pandion haliaetus carolinensis), bald eagle (Haliaeetus leucocephalus), killdeer (Charadrius vociferus), and several species of hawks and warblers.

There are numerous mounds and hills within the spoil area. Because of the wide range in elevation and disturbed nature of this area, a mountain bike trail was established throughout. The undeveloped spoil area offers opportunities for the elimination of non-native vegetation and replanting with plants which would be more representative of the maritime hammock natural community. The wide range in elevation within zones OLR 5 and OLR 7 may make it difficult for large scale removal of Australian pines. A strategic plan will need to be formulated to restore these areas in the future.

General management measures: Large portions of spoil area are currently infested with non-native invasive vegetation, with a canopy dominated by Australian pine and Brazilian pepper. The undeveloped spoil area offers opportunities for transformation into maritime hammock and enhancement of tidal swamp around existing mangrove areas and canals. A long-term effort should be made to remove non-native vegetation and to reintroduce native species commonly found within maritime hammock to the degree which the spoil allows growth.

Canal/Ditch – 2.53 acres

Desired future condition: The desired future condition of the canal/ditch is to function as closely as possible to a natural freshwater system for the benefit of migratory birds and other wildlife within the park.

Description and assessment: This community is comprised of ditching adjacent and connected to the 4-acre artificial pond site on the western boundary of the park. It is representative of the freshwater ponds and marshes that were historically found in this area and have been lost. This man-made freshwater canal serves as an important resource for migrating and resident birds and other wildlife within the park. Several species of birds are regularly observed utilizing this area, including pied-billed grebe (Podilymbus podiceps), American coot (Fulica Americana), purple gallinule (Porphyrio martinicus), green heron (Butorides virescens), great blue heron (Ardea herodias), little blue heron (Egretta caerulea), and white ibis (Eudocimus albus). Plants found along the boundaries of this freshwater canal include Flaveria linearis, Euphorbia cyathophora, Andropogon glomeratus, Bidens alba, and Coccoloba uvifera.

General management measures: Invasive exotic and nuisance plants should be monitored and removed from the shoreline edges and submerged areas. Further investigation is required to determine impacts of sedimentation, current nutrient levels, and wildlife utilization, including utilization by migratory birds.

Developed – 49.25 acres

Desired future condition: The developed areas within the park will be managed to minimize their effects on adjacent natural areas. Priority invasive plant species (FISC Category I and II species) will be removed from all developed areas. Other management measures include providing proper storm water management to protect adjacent marine resources and alleviate flooding of developed areas.

Description and assessment: These areas consist of facilities, roads, parking lots, residences and the Dade Marine Institute facility. Most of the land surrounding the developed areas has been cleared of non-native invasive and replanted with native species.

General management measures: Removal of non-native invasive vegetation and assessment and maintenance of roads and facilities are the main management measures to be taken within developed areas of the park. Assess flooding issues within parking areas and roads using hydrological study.

Natural Communities Management

Goal: Restore and maintain the natural communities/habitats of the park.

The DRP practices natural systems management. In most cases, this entails returning fire to its natural role in fire-dependent natural communities. Other methods to implement this goal include large-scale restoration projects as well as smaller scale natural communities' improvements. Following are the natural community management objectives and actions recommended for the state park

Objective A: Conduct habitat/natural community restoration activities on 170 acres of spoil area by transitioning into a natural community representative of maritime hammock.

Action 1 Treatment and maintenance of non-native invasive vegetation.
Action 2 Revegetation with native plants representative of maritime hammock natural community

OLR-12 contained approximately 23 acres of upland Australian Pine and other species which is in the process of being mowed and mulched in place. Eight acres were mowed under a previous budget year. Size and density of standing trees within this zone range from dense seedling/sapling size to more open stand overstory which have trees up to 20 inches in diameter. Recent storms have negatively impacted the zone and caused a significant amount of dead material on the ground. A root rot pathogen has also created pockets of dead and dying Australian pine. Heavy equipment is necessary to sever and mulch standing vegetation as well as mulching horizontal windthrown material laying on the ground. The treatment objective is to mulch vegetation as close to the ground as possible. Vegetation at the surface will aid future regeneration efforts.

In addition to the 2021-2022 mulching of Australian pine in OLR 12, other zones containing spoil area have Australian pine dominant overstory which should be addressed in the future. These zones include OLR 4, OLR 5, OLR 7 and OLR 11. Because of the wide range in elevation and disturbed nature of these areas, particularly OLR 5 and OLR 7, a mountain bike trail was established throughout. The wide range in elevation within these areas will make it difficult to do large-scale clearing of Australian pine using large machinery. A strategic plan will need to be put into place to eradicate pines in these areas, possibly dividing the acreage into small chunks and doing a small amount at a time.

After completion of severing and mulching of Australian Pine, revegetation with plants representative of the maritime hammock natural community needs to take place. Appropriate plants representative of maritime hammock to be planted include cabbage

palm - *Sabal palmetto,* gumbo limbo-*Bursera simaruba,* Jamaica caper – *Quadrella cynophallophora, pi*geon plum – *Coccoloba diversifolia,* Seagrape – *Coccoloba uvifera,* White stopper – *Eugenia axillaris,* Inkwood – *Exothea paniculate,* Strangler fig – *Ficus aurea,* Shortleaf fig – *Ficus citrifolia,* Blolly – *Guapira discolor, F*lorida privet – *Foresteria segregate,* Dahoon holly – *Ilex cassine,* Black ironwood-*Krugiodendron ferreum, Spanish* stopper – *Eugenia foetida,* Wax myrtle – *Myrica cerifera,* Lancewood – *Nectranda coriacea,* Blackbead – *Pithecellobium keyense,* White indigo berry – *Randia aculeata,* Soapberry – *Sapimdus saponaria* var. *Saponaria,* Willow bustic – *Sideroxylon salicfolium,* Paradise tree- *Simarouba glauca,* Rougeberry – *Rivina humilus, and* Coral bean – *Erythrina herbacea.*

Imperiled Species

There are 18 designated plants and 14 designated animals that occur in Oleta River State Park. The majority of the plants did not occur naturally but have been planted as part of upland restoration projects. The golden leather ferns, however, are naturally occurring in the mangroves and have recruited into low-lying areas of the ruderal uplands. The park provides important greenspace in the center of a highly urbanized environment. Located on the coast of a major neotropical migratory route, numerous hawks, warblers, and other birds rest and feed at the park seasonally. The Florida manatee frequents the shallow waters of the lagoon, bay, and river around the park land base. The distribution of Gopher Tortoises (Gopherus Polyphemus) in the southern peninsula is limited due to increased fragmentation and urbanization. The gopher tortoise is a keystone species because tortoise burrows are not just home to the gopher tortoise, but they also provide habitat and shelter for many species, including invertebrates, amphibians, other reptiles and mammals. The gopher tortoise occurs sparsely within the spoil areas of the park where there is herbaceous groundcover for forage and sandy soils to dig its burrow. It's possible these tortoises were moved here un-officially from other locations. Gopher tortoise populations and burrows should be surveyed as staff time and funding allows to determine population status and trends of the tortoise and its commensals. This monitoring should be conducted in accordance with FWC gopher tortoise monitoring guidelines and data submitted to FWC to include in a statewide data set.

The Florida manatee (Trichechus manatus latirostris) is found utilizing estuarine areas of the park. Surveys conducted by DERM indicate that manatees are most frequently observed in the lagoon and in the bay along the southeast shoreline of the park. They are occasionally seen in the lower portion of the river along the park property. North of the park, they are frequently observed at the junction of the river and the Snake Creek Canal. Preventive care will be taken to ensure culverts and water control structures are utilizing grating or alternative manatee exclusion devices to avoid entrapments and/or drowning.

The park provides important greenspace in the center of a highly urbanized environment. The park is literally an island of terrestrial habitats surrounded by development and as such is an important refuge for native plant and animal species. Though much of the park is comprised of spoil area, it serves as a critical stop-over habitat for millions of migratory and resident birds along the Atlantic Flyway. The Atlantic Flyway is a migratory path that extends from South America to Canada and accommodates hundreds of species of birds and millions of individuals during any single migration season.

The freshwater areas of the artificial pond and associated freshwater canal/ditch, along with lower salinity waters associated with mangrove swamp are important habitat and nursery areas for a large number of invertebrates, fish and birds. Herons, egrets, ibis and other wading birds can be observed foraging within these freshwater and mangrove swamp areas. If issues concerning imperiled species and their management arise, DRP staff will coordinate with USFWS and FWC to ensure that management and monitoring of imperiled animal species is consistent with recovery goals.

An American crocodile (Crocodylus acutus) was observed within the mangrove swamp areas of the park in 2018. Records show they were plentiful in areas like Key Largo and Miami Beach, where there were the appropriate mangroves for nesting and foraging. At the end of the 19th century, populations plummeted due to hunting for their leather and habitat destruction. Widespread hunting did not cease until the 1970s. At one point in that decade, there were fewer than thirty total nests counted. As of 2020, population numbers seem to be expanding to reclaim former habitat in south Florida. Park staff should monitor for increased American crocodile population expansion into the park.

Imperiled species are those that are (1) tracked by FNAI as critically imperiled (G1, S1) or imperiled (G2, S2); or (2) listed by the U.S. Fish and Wildlife Service (USFWS), Florida Fish and Wildlife Conservation Commission (FWC) or the Florida Department of Agriculture and Consumer Services (FDACS) as endangered, threatened or of special concern.

Table 3 contains a list of all known imperiled species within the park and identifies their status as defined by various entities. It also identifies the types of management actions that are currently being taken by DRP staff or others and identifies the current level of monitoring effort. The codes used under the column headings for management actions and monitoring level are defined following the table. Explanations for federal and state status as well as FNAI global and state rank are provided in Addendum 6.

Table 3. Imperiled Species Inventory

Common and Scientific Name	Imperiled Species Status				Management Actions	Monitoring Level
	FWC	USFWS	FDACS	FNAI		
PLANTS						
Golden leather fern *Acrostichum aureum*			*ST*	*G5/S3*	*2,10,13*	*1*
Silver palm *Coccothrinax argentata*			*ST*		*2,10,13*	*1*
Florida thatch palm *Thrinax radiata*			*SE*	*G4G5/S2*	*2,10,13*	*1*
Cinnecord *Acacia choriophylla*			*SE*		*2,10,13*	*1*
Cinnamon bark *Canella winterana*			*SE*	*G5/S2*	*2,10,13*	*1*
Satinleaf *Chrysophyllum oliviforme*			*ST*		*2,10,13*	*1*
Redberry stopper *Eugenia confusa*			*SE*	*G4G5/S23*	*2,10,13*	*1*

Table 3. Imperiled Species Inventory						
Common and Scientific Name	**Imperiled Species Status**				**Management Actions**	**Monitoring Level**
	FWC	**USFWS**	**FDACS**	**FNAI**		
Lignumvitae *Guaiacum sanctum*			*SE*	*G2G3/S1*	*2,10,13*	*1*
Twinberry stopper *Myrcianthes fragrans*			*ST*		*2,10,13*	*1*
Inkberry *Scaevola plumieri*			*ST*		*2,10,13*	*1*
West Indian mahogany *Swietenia mahagoni*			*ST*	*G3G4/S3*	*2,10,13*	*1*
Biscayne prickly ash *Zanthoxylum coriaceum*			*SE*	*G3/S1*	*2,10,13*	*1*
Invertebrates						
Cassius blue butterfly *Leptotes cassius*		FT (S/A)			2,8,10,12,13	*1*
Ceraunus blue butterfly *Hemiargus ceraunus*		FT (S/A)			2,8,10,12,13	*1*
Nickerbean blue butterfly Cyclargus ammon	*T (S/A)*	FT (S/A)		*G4G5/S1*	2,8,10,12,13	*1*
REPTILES						
American crocodile *Crocodylus acutus*	*T*	*FT*		*G2/S2*	*4,10,13*	*1*
Gopher tortoise *Gopherus polyphemus*	*ST*			*G3/S3*	*1,2,13*	*1*
BIRDS						
Little blue heron *Egretta caerulea*	*ST*			*G5/S4*	*4,10,13*	*1*
Tricolored heron *Egretta tricolor*	*ST*			*G5/S4*	*4,10,13*	*1*
Florida sandhill crane *Antigone canadensis pratensis*	*ST*			*G5T2/S2S3*	*4,10,13*	*1*
Wood stork *Mycteria americana*		*FT*		*G4/S2*	*4,10,13*	*1*
Reddish Egret *Egretta rufescens*	*ST*			*G4/S2*	*4,10,13*	*1*
Least Tern *Sternula antillarum*	*ST*			*G4/S3*	*4,10,13*	*1*
Roseate Spoonbill *Platalea ajaja*	*ST*			*G5/S2*	*4,10,13*	*1*
Osprey *Pandion haliaetus*				*G5/S3S4*		*1*
MAMMALS						
Florida manatee *Trichechus manatus latirostris*		*FT*		*G2/S2*	*4,10,13*	*1*

Management Actions:

1. Prescribed Fire
2. Non-native invasive Plant Removal
3. Population Translocation/Augmentation/Restocking
4. Hydrological Maintenance/Restoration
5. Nest Boxes/Artificial Cavities
6. Hardwood Removal
7. Mechanical Treatment
8. Predator Control
9. Erosion Control
10. Protection from Visitor Impacts (establish buffers)/Law Enforcement
11. Decoys (shorebirds)
12. Vegetation Planting
13. Outreach and Education
14. Other

Monitoring Level:

Tier 1. Non-Targeted Observation/Documentation: includes documentation of species presence through casual/passive observation during routine park activities (i.e. not conducting species-specific searches). Documentation may be in the form of Wildlife Observation Forms, or other district specific methods used to communicate observations.
Tier 2. Targeted Presence/Absence: includes monitoring methods/activities that are specifically intended to document presence/absence of a particular species or suite of species.
Tier 3. Population Estimate/Index: an approximation of the true population size or population index based on a widely accepted method of sampling.
Tier 4. Population Census: A complete count of an entire population with demographic analysis, including mortality, reproduction, emigration, and immigration.
Tier 5. Other: may include habitat assessments for a particular species or suite of species or any other specific methods used as indicators to gather information about a particular species.

Imperiled Species Management

Goal: Maintain, improve or restore imperiled species populations and habitats.

The DRP strives to maintain and restore viable populations of imperiled plant and animal species primarily by implementing effective management of natural systems. Single species management is appropriate in state parks when the maintenance, recovery or restoration of a species or population is complicated due to constraints associated with long-term restoration efforts, unnaturally high mortality or insufficient habitat. Single species management should be compatible with the maintenance and restoration of natural processes and should not imperil other native species or seriously compromise park values.

In the preparation of this management plan, DRP staff consulted with staff of the FWC's Imperiled Species Management or that agency's Regional Biologist and other appropriate federal, state and local agencies for assistance in developing imperiled animal species management objectives and actions. Likewise, for imperiled plant species, DRP staff consulted with FDACS. Data collected by the USFWS, FWC, FDACS and FNAI as part of their ongoing research and monitoring programs will be reviewed by park staff periodically to inform management of decisions that may have an impact on imperiled species at the park.

Ongoing inventory and monitoring of imperiled species in the state park system is necessary to meet the DRP's mission. Long-term monitoring is also essential to ensure the effectiveness of resource management programs. Monitoring efforts must be prioritized so that the data collected provides information that can be used to improve or confirm the effectiveness of management actions on conservation priorities. Monitoring intensity must at least be at a level that provides the minimum data needed to make informed decisions to meet conservation goals. Not all imperiled species require intensive monitoring efforts on a regular interval. Priority must be given to those species

that can provide valuable data to guide adaptive management practices. Those species selected for specific management action and those that will provide management guidance through regular monitoring are addressed in the objectives below.

Ecosystem management within Oleta River State Park focuses on protecting the integrity of existing natural communities in addition to providing resource-based recreation. Efforts are made to reduce impacts to existing natural communities and restore natural habitat when funding becomes available. In addition, all native plants and animals in the park are protected. Thus, no designated species is specifically managed for, but consideration is given to areas that designated species may inhabit.

Presently, restoration/enhancement plans are being accomplished within Australian pine dominated zone OLR12. This site will be revegetated with species representative of maritime hammock, a natural community important as a stopover and resting site for migrating Neotropical birds. Additionally, a 4-acre site has been restored to a freshwater artificial pond. Freshwater wetlands are quite rare in eastern Dade County, but provide important foraging and roosting habitat for many species of birds.

At Oleta River State Park, the endangered Florida manatee will benefit from additional protective management measures. As previously mentioned, manatees are observed in the lagoon, bay and river, but are most abundant in the lagoon and bay. High levels of boat traffic in this area, particularly on weekends, are a great hazard to both manatees and park visitors. Park management will continue coordination efforts with law enforcement agencies to achieve better compliance with boat speed regulations. Educational outreach to the local boating community regarding the environmental importance of these regulations is needed. Boater education and enforcement of speeding regulations within park waters will benefit numerous designated wading bird species. Roosting and foraging wading birds along the mangrove shoreline are frequently startled and disturbed by fast, noisy motorboats and jet skis. Because of this, the birds' energy is wasted in disturbance flight, and such areas are utilized less frequently by wading birds. This behavior can be detrimental with migratory species that need to conserve energy. With motorized vessels excluded from some areas, the shoreline will provide a higher quality of habitat and will be visited by a greater number of birds. Improvement of water quality in North Biscayne Bay is also needed to improve habitat quality for manatees and wading birds.

Objective A: Update baseline imperiled species occurrence inventory lists for plants and animals.

Action 1 Develop a monitoring protocol to identify and update the imperiled species list for the park.

DRP staff will continue to develop partnerships with other agencies and academic institutions to assist with the updates of inventory lists for additional imperiled species. Numerous agencies currently conduct research projects in the park that sometimes leads to the discovery of additional imperiled species. An inventory of terrestrial amphibians and reptiles was done in the early 2000s (Geneva and Roberts, 2009).

Objective B: Monitor and document imperiled plant and animal species in the park.

Action 1	Monitor seagrass within the "no motor zone" of the restoration area to the south and east of the cabin area within OLR- 08.
Action 2	Monitor and document occurrences of the American crocodile (*Crocodylus acutus*)
Action 3	Monitor and document gopher tortoise population

To serve as seagrass restoration for a nearby marina project in 2013, a borrow area within the park was filled to an elevation of (-)8 feet (NA VD 1988) with clean lime rock, and then 2 feet of sand, for a final elevation of (-)6 feet NA VD 1988. The south end of the restoration area was sloped to the existing bottom. The sand was retained by adding a buried wall of pre-cast concrete Jersey barrier along the south end of the restoration site. Buoys were attached to the retaining wall at approximately 10-foot intervals with warning signs indicating shallow water. Monitoring of seagrasses occurring within this mitigation area, including imperiled Johnson's seagrass will be important into the future. Monitoring should include an annual assessment of percent seagrass coverage as staff and funding allows. This area should be maintained as a "No Motor Zone", to exclude all combustion, electric, and intake motors and to allow hand-propelled vessels only. As of April 2022, Johnson's seagrass is in the process of being delisted as an imperiled plant species by National Marine Fisheries Services.

An American crocodile (*Crocodylus acutus*) was observed within the mangrove swamp areas of the park in 2018. Park staff should routinely monitor for increased population expansion within park boundaries.

There is a sparse gopher tortoise (*Gopherus Polyphemus*) population with the park's spoil areas. These individuals possibly originated from unofficial releases from other properties with more appropriate natural communities to support them. Gopher tortoise populations and burrows will be periodically surveyed to determine population status and trends of the tortoise and its commensals. However more in-depth monitoring is required in the form of a detailed belt transect survey and burrow scoping with a specific monitoring timeline. This population information should also be standardized and submitted to FWC for inclusion in statewide datasets.

Non-Native Invasive and Nuisance Species

Non-native invasive species are plants or animals not native to Florida. Invasive non-native invasive species are able to out-compete, displace or destroy native species and their habitats, often because they have been released from the natural controls of their native range, such as diseases, predatory insects, etc. If left unchecked, invasive non-native invasive plants and animals alter the character, productivity and conservation values of the natural areas they invade.

Non-native invasive animal species include non-native wildlife species, free ranging domesticated pets or livestock and feral animals. Because of the negative impacts to natural systems attributed to non-native invasive animals, the DRP actively removes non-native invasive animals from state parks, with priority being given to those species causing the greatest ecological damage.

areas. Nuisance animals are dealt with on a case-by-case basis in accordance with the DRP's Nuisance and Non-native invasive Animal Removal Standard.

The threat of exotic plant infestation at Oleta River State Park comes from several sources; exotic species already found in the park, those spread by natural means (i.e. Birds, wind, and water) and those spread from the City of North Miami. The park will continue to remove exotic species and replant with appropriate native vegetation.

Australian pine remains the dominant invasive species and great strides are currently being made to eliminate this species from the park. Unfortunately, other species, which may be more prolific, are becoming increasingly abundant. These include burma reed, beach naupaka, Brazilian pepper, seaside mahoe, and melaleuca. Exotic removal will focus on the most aggressive and prolific species. The first priority will be maintaining restored areas free of all exotic species. Due to the numerous large restoration projects that have occurred in the park, this is a large task. Finally, work should proceed from areas of small isolated clumps to large contiguous stands of exotics.

Beach naupaka is a large bushy shrub native to southeastern Asia, eastern Africa, Australia and the Pacific Islands, including Hawaii. The salt-tolerant beach naupaka has been available from nurseries since the 1960s and was promoted in the 1970s and 1980s for use in beach stabilization projects and coastal landscapes. Beach naupaka escaped cultivation by the early 1980s and now forms dense stands on many beach dunes, coastal rock barrens, coastal strands, along saline shores, including mangroves, and in coastal hammocks. Shrubs of beach naupaka produce copious fruit clusters and can grow to heights of 5 meters (16 feet). They displace native dune vegetation, including sea oats, that helps to guard against erosion. It forms monocultures within open spaces on the dune that are important for the endangered sea lavender (Argusia gnaphalodes), beach peanut (Okenia hypogaea), beach clustervine (Jacquemontia reclinata), and threatened inkberry. Monitoring and re-treatment will be important for at least two to three years after removal, to weed out new seedlings and stem sprouts, particularly within mangrove areas.

Burma reed is a native of Southeast Asia. Stems, including the flower stalks are from 3 to 15 feet in height, depending on soil and moisture conditions. Burma reed damages native ecosystems by crowding and shading out understory plant species and by creating conditions for extremely hot and destructive wildfires. In southern Florida (Miami-Dade County), it is a serious threat to the globally imperiled pine rocklands community whose pine canopy was largely destroyed in 1992 by Hurricane Andrew. Restoration of sites infested with Burma reed requires a long-term commitment to ensure effective control and to allow native vegetation to become established. It's deep roots make mechanical removal labor intensive and costly and causes extensive disturbance to the soil. A more effective management approach involves a combination of cutting followed by application of herbicides.

Non-native invasive plant removal efforts have been successful within the east side of the park main drive. A root rot pathogen within the remaining acreages of Australian pine have facilitated the removal of an additional 22.6 acres of the Australian pine and other species within management zone OLR-12 which will be mulched, left in place, and revegetated. To minimize re-invasion, the planting of natives will accompany all exotic removal. However, this too depends on a source of funding. In addition to OLR-12, Australian pine removal is warranted within all spoil areas of the park, OLR 4, OLR 5, OLR 7, and OLR 11. Due to the extensive amount of exotic removal that is required, park

management will need to continue to pursue funding for restoration projects and to hire augmented staff that can focus on this activity. Species to be planted include cabbage palm - *Sabal palmetto,* gumbo limbo-*Bursera simaruba,* Jamaica caper – *Quadrella cynophallophora, pi*geon plum – *Coccoloba diversifolia,* Seagrape – *Coccoloba uvifera,* White stopper – *Eugenia axillaris,* Inkwood – *Exothea paniculate,* Strangler fig – *Ficus aurea,* Shortleaf fig – *Ficus citrifolia,* Blolly – *Guapira discolor, Fl*orida privet – *Foresteria segregate,* Dahoon holly – *Ilex cassine,* Black ironwood-*Krugiodendron ferreum, Spanish* stopper – *Eugenia foetida,* Wax myrtle – *Myrica cerifera,* Lancewood – *Nectranda coriacea,* Blackbead – *Pithecellobium keyense,* White indigo berry – *Randia aculeata,* Soapberry – *Sapimdus saponaria* var. *Saponaria,* Willow bustic – *Sideroxylon salicfolium,* Paradise tree- *Simarouba glauca,* Rougeberry – *Rivina humilus, and* Coral bean – *Erythrina herbacea.*

Many of Oleta River State Park's documented exotic animals are species that are the result of the park being within a subtropical urban environment with major commercial ports of entry. Numerous non-native animals have been accidentally or deliberately introduced into the region and have subsequently thrived. Established non-native species include lionfish, invertebrates (insects, snails, spiders), reptiles and amphibians [tropical house gecko (Hemidactylus mabouia), greenhouse frog (Eleutherodactylus planirostris)], and pan-tropical pest species [black rat (Rattus rattus)]. Due to their pervasiveness, number and/or small size, most of these species cannot be practically managed; environmentally safe and effective control techniques that can be used park-wide do not currently exist for them. Even if Oleta River State Park could be rid of any of these particular exotics, more would soon recolonize from nearby developed areas. There was an isolated sighting of a Burmese python in November of 2021, possibly an isolated incident stemming from pet release. The green iguana (Iguana iguana) population at Oleta River has exploded in recent years. Current removal efforts include opportunistic removal by park staff and large-scale removal by contractor. Invasive lionfish have been documented within the park and should be removed opportunistically when possible. Lionfish are native to coral reefs in the tropical waters of the South Pacific and Indian Oceans. Adult lionfish are primarily fish-eaters and have very few predators outside of their home range. A single lionfish residing on a coral reef can reduce recruitment of native reef fish by 79 percent. No major problems have arisen concerning nuisance wildlife species within the park. The feeding of wild animals, such as raccoons, is discouraged as well as being against the law. The proper disposal of discarded food items, especially around the picnic shelters, will help in alleviating any future problems.

Table 4 contains a list of the Florida Invasive Species Council (FISC) Category I and II invasive, non-native invasive plant species found within the park (FISC 2019). The table also identifies relative distribution for each species and the management zones in which they are known to occur. An explanation of the codes is provided following the table. For an inventory of all non-native invasive species found within the park, see Addendum 5.

Table 4. Inventory of FISC Category I and II Invasive Plant Species

Common and *Scientific Name*	**FLEPPC Category**	**Distribution**	**Management Zone(s)**
Acacia auriculiformis Earleaf acacia	I	*2*	OLR-14
Ardisia elliptica Shoebutton ardisia	I	*2*	OLR-14
Casuarina equisetifolia Australian-pine	I	*2*	OLR-03, OLR-04, OLR-09, OLR-13, OLR-16, OLR-17

Table 4. Inventory of FISC Category I and II Invasive Plant Species			
Common and *Scientific Name*	**FLEPPC Category**	**Distribution**	**Management Zone(s)**
		3	OLR-10, OLR-14
		4	OLR-01, OLR-02, OLR-12
		5	OLR-05, OLR-06, OLR-07, OLR-11
Cocos nucifera Coconut palm	II	*1*	OLR-13
		2	OLR-09
Dioscorea bulbifera Air-potato	I	2	OLR-14
Lantana camara Lantana	I	1	OLR-13
		2	OLR-01, OLR-09, OLR-17
Leucaena leucocephala Lead tree	II	1	OLR-13
Lygodium microphyllum Old world climbing fern	I	3	OLR-14
Melaleuca quinquenervia Melaleuca	I	2	OLR-05, OLR-14
Momordica charantia Balsampear	II	1	OLR-13
Neyraudia reynaudiana Burma reed	I	2	OLR-04, OLR-05, OLR-11, OLR-12, OLR-13
		3	OLR-02, OLR-06, OLR-07, OLR-14, OLR-17
		4	OLR-10
		5	OLR-09
Phoenix reclinata Senegal date palm	II	1	OLR-13
Pteris vittata Chinese brake fern	II	1	OLR-13
Ricinus communis Castor bean Melaleuca quinquenervia	II	2	OLR-06
Scaevola taccada Beach naupaka	I	2	OLR-05, OLR-11, OLR-13, OLR-15
		3	OLR-02, OLR-03, OLR-06, OLR-07, OLR-09, OLR-17
Schefflera actinophylla Schefflera	I	1	OLR-02, OLR-03, OLR-06, OLR-07
		2	OLR-14
Schinus terebinthifolius Brazilian pepper	I	2	OLR-01, OLR-02, OLR-03, OLR-04, OLR-06, OLR-09, OLR-10, OLR-11, OLR-16, OLR-17
		3	OLR-07, OLR-13, OLR-14
Sphagneticola trilobata Wedelia	II	2	OLR-13
		3	OLR-11, OLR-16
Talipariti tiliaceum Mahoe	II	2	OLR-15
Thespesia populnea	I	1	OLR-03

Table 4. Inventory of FISC Category I and II Invasive Plant Species			
Common and *Scientific Name*	**FLEPPC Category**	**Distribution**	**Management Zone(s)**
Seaside mahoe		2	OLR-01, OLR-05, OLR-09
Tradescantia spathacea Oyster plant	I	2	OLR-05, OLR-09, OLR-10, OLR-11, OLR-13, OLR-16, OLR-17
		3	OLR-07, OLR-14

Distribution Categories:

0 No current infestation: All known sites have been treated and no plants are currently evident.
1 Single plant or clump: One individual plant or one small clump of a single species.
2 Scattered plants or clumps: Multiple individual plants or small clumps of a single species scattered within the gross area infested.
3 Scattered dense patches: Dense patches of a single species scattered within the gross area infested.
4 Dominant cover: Multiple plants or clumps of a single species that occupy a majority of the gross area infested.
5 Dense monoculture: Generally, a dense stand of a single dominant species that not only occupies more than a majority of the gross area infested, but also covers/excludes other plants.
6 Linearly scattered: Plants or clumps of a single species generally scattered along a linear feature, such as a road, trail, property line, ditch, ridge, slough, etc. within the gross area infested.

Non-Native Invasive Species Management

Goal: Remove non-native invasive plant and animal species from the park and conduct needed maintenance control.

The DRP actively removes invasive non-native invasive species from state parks, with priority being given to those causing the ecological damage. Removal techniques may include mechanical treatment, herbicides or biocontrol agents.

Objective A: Annually treat 86 infested acres of non-native invasive plant species in the park.

Action 1 Annually develop/update a non-native invasive plant management work plan.

Action 2 Implement annual work plan by surveying for and treating 86 infested acres (170 gross acres) of non-native plant infestation within the park and continuing with follow-up maintenance treatments as needed.

Park staff will conduct non-native invasive removal treatment at the park for (FISC) Category I and II invasive non-native invasive, EDRR species and other non-native plant species.

Non-native invasive plant removal efforts have cleared most of within the east side of the park from the main drive. A root rot pathogen within the remaining acreages of Australian pine have facilitated the removal of an additional 22.6 acres of the Australian pine and other species within management zone OLR-12 which will be mulched, left in place, and revegetated. To minimize re-invasion, the planting of natives will accompany all exotic removal. However, this too depends on a source of funding. Due to the extensive amount of exotic removal that is required, park management will need to continue to pursue funding for restoration projects and to hire augmented staff that can focus on this activity. A restoration plan has been developed for the park that addresses removal of exotics and planting of native vegetation representative of the maritime hammock natural community.

Table 5. Non-Native Invasive Species Treatment		
Natural Communities	**Primary Target**	**Target Treatment Return**
Spoil Area	Australian Pine	3-5 years
Maritime Hammock	Burma Reed/Beach Naupaka	3-5 years
Artificial Pond	Burma Reed/Beach Naupaka	3-5 years
Canal/Ditch	*Burma Reed/Beach Naupaka*	*3-5 years*
Mangrove Swamp	Australian Pine	3-5 years
Developed	Australian Pine	3-5 years
Marine Consolidated Substrate	N/A	N/A
Marine Unconsolidated Substrate	N/A	N/A
Total Gross Acreage Target / Year	**170**	
Total Infested Acreage Target / Year	**86**	

*Note that gross acres treated means total area walked or covered by staff or contractors. Infested area means the total coverage of non-native invasive plants within the gross acreage. DRP sets goals and tracks treatment of gross and infested acreage treatment via the Natural Resources Tracking System.

Objective B: Implement control measures on 1 nuisance and non-native invasive animal species in the park.

Action 1 Monitor and remove populations of Green iguanas (Iguana iguana).
Action 2 Utilize an early detection rapid response to new invasive species.

Green iguanas will continue to be controlled at Oleta River State Park. Following occasional frost and cold events, park staff should survey and opportunistically remove green iguanas along with other non-native invasive reptile species from the park. While total eradication of this species may be unlikely; it is important to keep populations reduced to minimize negative impacts to natural systems and native species. By taking an Early Detection Rapid Response (EDRR) approach to new species, the park can help slow or contain new potentially invasive species to the region and state.

Objective C: Monitor Sandspur Island for invasive and nuisance species.

Action 1 Replace current trash receptacles with animal resistant bins.
Action 2 Conduct an assessment of island racoon population to determine if removal is needed
Action 3 Survey Sandspur Island every two years for invasive plant species and conduct treatment as needed

Racoons are a known nuisance animal species on the park's mainland as well as on Sandspur Island. If it is determined that the raccoon population of Sandspur Island is a nuisance, a contractor may be hired for larger scale removal of racoons. All current trash receptacles should be replaced with animal proof bins to prevent the raccoons from spreading trash. The park currently has a contract with Miami Dade – DERM for routine trash removal, which is set to expire at the end of December 2022. A new contract may need to be pursued if this contract is not renewed. Sandspur Island should be surveyed

for invasive species every two years, and invasive plant species should be removed as needed either by park and district staff or a contractor.

Cultural Resources

This section addresses the cultural resources present in the park that may include archaeological sites, historic buildings and structures, cultural landscapes and collections. The Florida Department of State (FDOS) maintains the master inventory of such resources through the Florida Master Site File (FMSF). State law requires that all state agencies locate, inventory and evaluate cultural resources that appear to be eligible for listing in the National Register of Historic Places. Addendum 7 contains the FDOS, Division of Historical Resources (DHR) management procedures for archaeological and historical sites and properties on state-owned or controlled properties; the criteria used for evaluating eligibility for listing in the National Register of Historic Places, and the Secretary of Interior's definitions for the various preservation treatments (restoration, rehabilitation, stabilization and preservation). For the purposes of this plan, significant archaeological site, significant structure and significant landscape means those cultural resources listed or eligible for listing in the National Register of Historic Places. The terms archaeological site, historic structure or historic landscape refer to all resources that will become 50 years old during the term of this plan.

Condition Assessment

Evaluating the condition of cultural resources is accomplished using a three-part evaluation scale, expressed as good, fair and poor. These terms describe the present condition, rather than comparing what exists to the ideal condition. Good describes a condition of structural stability and physical wholeness, where no obvious deterioration other than normally occurs. Fair describes a condition in which there is a discernible decline in condition between inspections, and the wholeness or physical integrity is and continues to be threatened by factors other than normal wear. A fair assessment is usually a cause for concern. Poor describes an unstable condition where there is palpable, accelerating decline, and physical integrity is being compromised quickly. A resource in poor condition suffers obvious declines in physical integrity from year to year. A poor condition suggests action is needed to reestablish physical stability.

Level of Significance

Applying the criteria for listing in the National Register of Historic Places involves the use of contexts as well as an evaluation of integrity of the site. A cultural resource's significance derives from its historical, architectural, ethnographic or archaeological context. Evaluation of cultural resources will result in a designation of NRL (National Register or National Landmark Listed or located in an NR district), NR (National Register eligible), NE (not evaluated) or NS (not significant) as indicated in the table at the end of this section.

There are no criteria for determining the significance of collections or archival material. Usually, significance of a collection is based on what or whom it may represent. For instance, a collection of furniture from a single family and a particular era in connection with a significant historic site would be considered highly significant. In the same way, a high-quality collection of artifacts from a significant archaeological site would be of important significance. A large herbarium collected from a specific park over many decades could be valuable to resource management efforts. Archival records are most

significant as a research source. Any records depicting critical events in the park's history, including construction and resource management efforts, would all be significant.

Cultural Resource Sites

Desired future condition: All significant archaeological sites within the park that represent Florida's cultural periods or significant historic events, or persons are preserved in good condition in perpetuity, protected from physical threats and interpreted to the public.

Description: Three recorded cultural sites are located within the boundary of Oleta River State Park: two archeological sites and one historic structure. Both archeological sites where once locations occupied by Native Americans during the Glades and Glades I periods. They date to approximately 1000 B.C and are situated on the western bank of the river. The Fish Camp (DA01049) is a camp or small habitation site whose artifacts consist of shards, shells, and animal bones. Oleta River 2 (DA01024) is a prehistoric midden consisting of low-density artifact scatter from the Glades period. The Blue Marlin Fish House located on the intersection of 163rd and the Oleta River represents a historic site in North Miami. The Blue Marlin was a thriving smokehouse, fish house, marina, and restaurant from the 1938 through the 1940s. In 1945, they employed around 23 families, making it the largest employer in North Miami during that time. Remnants of the building including concrete pad still exists today.

Cultural Resource Management

Cultural resources are individually unique, and collectively, very challenging for the public land manager whose goal is to preserve and protect them in perpetuity. The DRP will implement the following goals, objectives and actions, as funding becomes available, to preserve the cultural resources found in Oleta River State Park.

Goal: Protect, preserve and maintain the cultural resources of the park.

The management of cultural resources is often complicated because these resources are irreplaceable and extremely vulnerable to disturbances. The advice of historical and archaeological experts is required in this effort. All activities related to land clearing, ground disturbing activities, major repairs or additions to historic structures listed or eligible for listing in the National Register of Historic Places must be submitted to the FDOS, Division of Historical Resources (DHR) for review and comment prior to undertaking the proposed project. Recommendations may include but are not limited to concurrence with the project as submitted, cultural resource assessment survey by a qualified professional archaeologist, modifications to the proposed project to avoid or mitigate potential adverse effect. In addition, any demolition or substantial alteration to any historic structure or resource must be submitted to the DHR for consultation and the DRP must demonstrate that there is no feasible alternative to removal and must provide a strategy for documentation or salvage of the resource. Florida law further requires that DRP consider the reuse of historic buildings in the park in lieu of new construction and must undertake a cost comparison of new development versus rehabilitation of a building before electing to construct a new or replacement building. This comparison must be accomplished with the assistance of the DHR.

Table 6. Cultural Sites Listed in the Florida Master Site File					
Site Name & FMSF #	**Culture/Period**	**Description**	**Significance**	**Condition**	**Treatment**
Fish Camp DA01049	Glades (1000 BC-1700 CE)	Archaeological Site	NE	G	ST
Oleta River 2 DA01024	Glades 1 (1000 BC-750 CE)	Archaeological Site	NE	G	P
Blue Marlin Fish House DA11371	1938	Structure	NS	P	P

Significance:

NRL	National Register listed
NR	National Register eligible
NE	not evaluated
NS	not significant

Condition

G	Good
F	Fair
P	Poor
NA	Not accessible
NE	Not evaluated

Recommended Treatment:

RS	Restoration
RH	Rehabilitation
ST	Stabilization
P	Preservation
R	Removal
N/A	Not applicable

Objective A: Compile reliable documentation for all recorded historic and archaeological resources.

Action 1 Conduct a level 1 archaeological survey for priority zones identified by the predictive model.

When planning for development or restoration projects involving ground disturbance, consultation with the Division of Historical Resources well in advance may identify the need for a cultural resources assessment survey (CRAS) that could involve a significant cost. The archaeological sensitivity model will provide some insight on the level of CRAS that may be required.

Timber Management Analysis

Oleta River State Park is designated as a single-use park. As such, timber management is only permitted as a method of natural community restoration and maintenance rather than as an ongoing extractive activity. The feasibility of managing/harvesting timber at Oleta River during the period covered by the UMP was considered pursuant to the DRP statutory responsibilities to analyze the park's resource needs and values. The long-term management goal for forest communities in the state park system is to maintain or re-establish natural characteristics to the degree practicable, except in those natural communities specifically managed for a structure that differs from that described in the timber assessment found at reference sites for those communities established by the Florida Natural Areas Inventory (FNAI). In the case of imperiled species, the management of certain natural communities may differ from standard treatments to provide optimum habitat conditions within the park.

Arthropod Control Plan

All DRP lands are designated as "environmentally sensitive and biologically highly productive" in accordance with Ch. 388 and Ch. 388.4111 Florida Statutes. If a local mosquito control district proposes a treatment plan, the DRP works with the local mosquito control district to achieve consensus. By policy of DEP since 1987, aerial adulticiding is not allowed, but larviciding and ground adulticiding is typically allowed. The DRP does not authorize new physical alterations of marshes through ditching or water control structures. Mosquito control plans may be set aside under declared threats to public or animal health, or during a Governor's Emergency Proclamation.

Sea Level Rise

Potential sea level rise is now under study and will be addressed by Florida's residents and governments in the future. The DRP will stay current on existing research and predictive models, in coordination with other DEP programs and federal, state, and local agencies. The DRP will continue to observe and document the changes that occur to the park's shorelines, natural features, imperiled species populations, and cultural resources. This ongoing data collection and analysis will inform the Division's adaptive management response to future conditions, including the effects of sea level rise, as they develop. In addition, DRP will follow guidance through state and county resiliency initiatives.

The Florida Department of Environmental Protection (DEP) is committed to marshaling resources to prepare Florida's coastal communities and habitats for the effects of climate change, especially rising sea levels. Through the Florida Resilient Coastlines Program (FRCP), DEP continues its efforts to help ensure collaboration among Florida's coastal communities, and to offer technical assistance and funding to coastal communities dealing with increasingly complex flooding, erosion and habitat shifts.

Within Miami - Dade's County Sea Level Strategy, there are five main adaptation approaches to sea level rise depending on a specific community needs and physical landscape. Those include:

- Building on Fill
- Build Like the Keys
- Build on High Ground Around Transit
- Expand Greenways and Blueways
- Create Green and Blue Neighborhoods

The "Expanding Greenways and Blueways" approach recommends strategies such as designing urban parks to support the movement and change of ecosystems as water levels rise. This can include the addition of green infrastructure including swales and rain gardens. Similarly, to what is being done in the Keys, further approaches include constructing future park infrastructure on higher ground when available and elevating existing infrastructure above water levels.

Land Management Review

Oleta River State Park was subject to a land management review on October 22, 2013. The review team determined the land is being managed for the purpose for which it was acquired, and the actual management practices, including public access, complied with the management plan for this site.

LAND USE COMPONENT

Land use planning and park development decisions for the state park system are based on the dual responsibilities of the DRP. These responsibilities are to preserve representative examples of original natural Florida and its cultural resources, and to provide outdoor recreation opportunities for Florida's citizens and visitors. These dual responsibilities inform all recreational and infrastructure development considerations.

The general planning and land use planning process begins with an analysis of the natural and cultural resources of the unit, proceeds through the creation of a conceptual land use plan and culminates in the actual design and construction of park facilities. Input to the plan is provided by experts in environmental sciences, cultural resources, park operation, and management. Additional input is received through public meetings and advisory groups with key stakeholders.

This component includes an inventory and brief description of the existing recreational uses, facilities, and special conditions on use. The Conceptual Land Use Plan (CLUP) for the park and identifies large-scale repair and renovation projects, new building and infrastructure projects, and new recreational amenities that are recommended to be implemented over the next ten-year planning period.

Existing Use of Adjacent Lands

Oleta River State Park is located within the limits of the City of North Miami in northern Miami-Dade County. High-density residential development is located to the immediate north of the park, along Sunny Isles Boulevard (163rd Street). Dense residential and commercial developments exist across the Intracoastal Waterway, directly to the east. In addition, Miami-Dade County operates Haulover Park, to the east of the park, across Biscayne Bay. The Biscayne Bay Campus of Florida International University (FIU) is situated to the south and west of the park. A City of North Miami water treatment plant, the Munisport landfill site, and light industrial land uses are located to the west of the park. The mangrove areas north and west of the park provide a slight buffer from the surrounding development.

Assessment of Use

All legal boundaries, significant natural features, structures, facilities, roads and trails existing in the unit are delineated on the base map (see Base Map). Specific uses made of the unit are briefly described in the following sections.

Past Uses

The Inter-American Center Authority originally selected the site (present day Oleta River State Park) as the location of the “Interama”, a permanent exposition showcasing the culture, business, government, and arts of various countries from South America, Central America, North America, and parts of Africa and Europe. The State of Florida then established the Interama Agency to promote trade within the Western Hemisphere. In the 1960s, during the initial stages of the project, extensive fill from the bay bottom was placed on the site, and a network of canals and utilities were put in place on its upland portions. The Interama project was eventually abandoned in 1974, as the necessary funding for its completion was not obtained.

Future Land Use and Zoning

The DRP works with local governments to establish designations that provide both consistency between comprehensive plans and zoning codes and permit typical state park uses and facilities necessary for the provision of resource-based recreation.

Oleta River State Park is designated as an Open Space / Recreation area by the City of North Miami. The primary use of this use designation includes conservation, recreation, and regional activities.

Florida Greenways and Trails System (FGTS)

The FGTS is made up of existing, planned and conceptual non-motorized trails and ecological greenways that form a connected, integrated statewide network. The FGTS serves as a green infrastructure plan for Florida, tying together the greenways and trails plans and planning activities of communities, agencies and non-profit organizations throughout Florida. Trails include paddling, hiking, biking, multi-use and equestrian trails. The Office of Greenways and Trails maintains a priority trails map and gap analysis for the FGTS to focus attention and resources on closing key gaps in the system.

The Florida Circumnavigational Saltwater Paddling Trail (CT) spans 1,515 miles along Florida's coast, from Pensacola to Fort Clinch State Park in northeastern Nassau County. Two segments of the CT begin and end at Oleta River State Park. Segment 16, a 72.5-mile stretch begins at John Pennekamp State Park ending at Oleta River State Park. While Segment 17, begins at Oleta ending at Hugh Taylor Birch State Park in Fort Lauderdale through the Intracoastal Waterway. This segment is approximately 16 miles in length.

Current Recreational Use and Visitor Programs

Existing recreational activities at Oleta River State Park include picnicking, swimming, paddling, and fishing. The park's 15 miles of off-road biking trails are considered among the best in the region and are popular with mountain biking groups and cyclists. A primitive group camp and primitive cabins provide opportunities for visitors to camp overnight. Considered Florida's largest urban park, paddling opportunities through the park's stretch of mangroves have become a popular activity. Sandspur Island, located in Biscayne Bay, is a popular destination for recreational boaters. Visitation at the park is steady throughout the year but tends to pick up during the summer.

Oleta River State Park recorded 315,231 visitors in FY 2020/2021. By DRP estimates, the FY 2020/2021 visitors contributed $48.5 million in direct economic impact, the equivalent of adding 679 jobs to the local economy (FDEP 2021).

Other Uses

The Florida Fish and Wildlife Conservation Commission (FWC) regional headquarters is located on a parcel of land near the center of the park. To accommodate these facilities, the FWC has been leasing a portion of the park since 1996.

OLETA RIVER STATE PARK
BASE MAP

N

0 1,000 2,000 Feet

User: Harrison_B
Folder: g:\parks\Oleta River State Park\Projects\UMP\Basemap\
Sources: ESRI; Florida Department of Environmental Protection
This graphical representation is provided for informational purposes and should not be considered authoritative for navigational, engineering, legal, and other uses.

Protected Zones

A protected zone is an area of high sensitivity or outstanding character from which most types of development are excluded as a protective measure. Generally, facilities requiring extensive land alteration or resulting in intensive resource use, such as parking lots, camping areas, shops or maintenance areas, are not permitted in protected zones. Facilities with minimal resource impacts, such as trails, interpretive signs and boardwalks are generally allowed. All decisions involving the use of protected zones are made on a case-by-case basis after careful site planning and analysis.

At Oleta River State Park all wetlands and floodplain as well as the estuarine tidal swamp and portions of the maritime hammock natural communities have been designated protected zones. The park's current protected zone is delineated on the Conceptual Land Use Plan.

Existing Facilities

From the park entrance on State Road 826, visitors drive along the main park road for just over a mile to the main parking area that serves most of the day use activities at Oleta River State Park. This main parking area has 923 parking spaces and is surrounded by 5 day use areas on each side. One of the park's concession operations, located to the north of the parking area, includes a two-story building with a retail shop, food services, and paddling rentals. To the west of the concession building is a paddling launch, leading visitors through the park's stretch of mangroves. To the southwest of the parking area is the beach area. There are two separate picnic areas on each side of the approximately 1,000-foot sandy beach. Both picnic areas have pavilions and restroom facilities, and the southern picnic area also has a fishing pier. East of the parking area along the Intracoastal are two additional picnic areas. A primitive cabin area is located to the northwest of the main parking area, accessible by an existing management road. An additional restaurant concession building, the Blue Marlin Fish House, is located on the park's far western boundary and is accessed by a separate entrance from State Road 826. This area also serves as a launch point for paddle trips along the Oleta River.

Recreation Facilities

Concession Area
- Concession Building
- Paddling Launch

South Beach Picnic Area
- Picnic Pavilions
- Fishing Pier
- Restroom

Park Trails
- Paved Bike Path (3 mi)
- Multi – Use Trails (15 mi)

Cabin Area
- Primitive Cabins (14)
- Restroom (1)

Intracoastal Use Area
- Picnic Pavilions (10)
- Parking (2)

North Beach Use Area
- Picnic Pavilions
- Playground
- Restroom

Blue Marlin Fish House and Interpretive Center
- Canoe Launch
- Concession Building
- Interpretive Center

Support Facilities

Concession Area
- Concession Building

Park Entrance
- Ranger Station
- Ticket Booth

Main Parking Lot
- Parking Spots (923)
- Bike Wash

Blue Marlin Fish House and Interpretive Center
- Concession Building
- Parking (25 spots)

Support Area
- Shop Building
- Storage Building
- Flammable Storage Shed

Parkwide
- Staff Residence
- Park Drive (2 mi)
- Service Roads (5 mi)

Conceptual Land Use Plan

The conceptual land use plan is the long-term, optimal development plan for the park, based on current conditions and knowledge of the park's resources, landscape and social setting. The conceptual land use plan is modified or amended, as new information becomes available regarding the park's natural and cultural resources or trends in recreational uses, in order to adapt to changing conditions. Additionally, the acquisition of new parkland may provide opportunities for alternative or expanded land uses. The DRP develops a detailed development plan for the park and a site plan for specific facilities based on this conceptual land use plan, as funding becomes available.

During the development of the conceptual land use plan, the DRP assessed the potential impact of proposed uses or development on the park resources and applied that analysis to determine the future physical plan of the park as well as the scale and character of proposed development. Potential resource impacts are also identified and assessed as part of the site planning process once funding is available for facility development. At that stage, design elements and design constraints are investigated in greater detail. Municipal sewer connections, advanced wastewater treatment or best available technology systems are applied for on-site sewage disposal.

Creation of impervious surfaces is minimized to the greatest extent feasible in order to limit the need for stormwater management systems, and all facilities are designed and constructed using best management practices to limit and avoid resource impacts. Federal, state and local permit and regulatory requirements are addressed during facility development. This includes the design of all new park facilities consistent with the universal access requirements of the Americans with Disabilities Act (ADA).

Public Access and Recreational Opportunities

Goal: Provide public access and recreational opportunities in the park.

The existing recreational activities and programs of this state park are appropriate to the natural and cultural resources contained in the park and should be continued. New and improved activities and programs are also recommended and discussed below.

Park Entrance
Landscaping Improvements

Residence Area
Two new residences

Support Area
Reorganize Support Area
Mitigate Flooding Issues
Pole Barns (3)
Administrative Office

Cabin Area
Cabin renovation/replacement
Volunteer Site
Road Stabilization

Concession Area
Renovate / expand concession building
Path development
Interpretive Panel(s)

Intracoastal Use Area
Small Fishing Pier

North Beach Use Area
Restroom Renovations
Upgrade Playground

South Beach Use Area
Replace Fishing Pier
Restroom Renovations

Proposed Developments
Park Boundary
Trails
Park Road Paved
Protected Zones

State of Florida, Maxar

OLETA RIVER STATE PARK

N

0 0.25 0.5 0.75 1 Miles

Florida Department of Environmental Protection
Division of Recreation and Parks
Date of aerial; 2016

CONCEPTUAL LAND USE PLAN

Objective A: Maintain the park's current recreational use.

The park will continue to provide opportunities for paddling, hiking, biking, picnicking, and beach activities.

Objective B: Continue to provide and evaluate interpretive opportunities.

Existing interpretation should continually be assessed for effectiveness, adherence to propriety themes, and relevance to the audience. Throughout the year, Oleta River State Park hosts three main interpretive programs focusing on the cultural, natural, and recreation aspects of the park. Cultural interpretive programs focus on the Tequesta Native Americans, who once inhabited in the area. Additionally, there is a brief program on the Diefenbach family who started the Blue Marlin in the 1930s. Recreational programs focuses on responsible fishing methods, birding and hiking throughout the park. Park staff will also continue to develop and provide programs in both Spanish and English, along with continuing to ensure new park signage is written in Spanish. Existing park interpretive panels should be revised to include Spanish translation.

Objective C: Plan and develop new interpretive opportunities

For future interpretation opportunities, the park plans to develop guided and roving programs highlighting many different aspects of the park's natural communities. Those include the park's stretch of mangroves, hydrology of adjacent waters includes the Oleta River and Biscayne Bay, and general natural community restoration efforts. An interpretive panel will be developed explaining the importance of the park's beach dunes and their natural vegetation.

Capital Facilities and Infrastructure

Goal: Develop and maintain use areas and support infrastructure.

Potential development at the park over the next ten years will mainly consist of improving or replacing existing structures. New development at the shop area will allow for increased park management capabilities.

The existing facilities of this state park are appropriate to the natural and cultural resources contained in the park and should be maintained. New construction, as discussed further below, is recommended to improve the quality and safety of the recreational opportunities, to improve the protection of park resources, and to streamline the efficiency of park operations. The following is a summary of improved and new facilities needed to implement the conceptual land use plan for Oleta River State Park.

Major repair projects for park facilities may be accomplished within the ten-year term of this management plan, if funding is made available. These include the modification of existing park facilities to bring them into compliance with the Americans with Disabilities Act (a top priority for all facilities maintained by DRP).

Objective: Maintain all use area and support facilities in the park.

All capital facilities, trails and roads within the park will be kept in proper condition through the daily or regular work of park staff and/or contracted help.

Objective: Improve 8 use areas.

Major repair projects for park facilities may be accomplished within the ten-year term of this management plan, if funding is made available. These include the modification of existing park facilities to bring them into compliance with the Americans with Disabilities Act (a top priority for all facilities maintained by DRP). The following discussion of other recommended improvements and repairs are organized by use area within the park.

North and South Beach Picnic Areas

- Restroom Renovations
- Landscaping Improvements
- Replace Fishing Pier
- Update Playground

Two separate picnic areas on either side of the park's main stretch of beach. Recommended improvements to the northern beach picnic area include updating the playground and general landscaping. At the southern beach picnic area, improvements include replacing the current fishing pier as it is closed due to structural issues. General restroom renovations are proposed at both picnic locations, along with the development of an outdoor shower at either location.

Support Area

- New Shop Building
- Pole Barns (3)
- Flooding Issues
- Small Administrative Office

The support area is prone to flooding, often reaching into the park shop. A plan should be developed with the district biologist to mitigate the stormwater and the flooding. Based on the outcomes of the hydrological study, mitigation options should be considered for implementation.

The park's support area is need of total reorganization within its existing footprint. Proposed improvements include removing the two current shop structures and replacing them with one larger building. Up to three pole barns and a small administrative office.

Intercoastal Use Area

- Small Fishing Pier

The parks Intercostal Picnic Area would benefit from the addition of a smaller fishing pier to provide visitors a second location for fishing, in addition to the southern beach use area.

Concession Area

- Renovate and expand concession building
- Path Development
- Interpretive Panel(s)

Capital improvements with the park's concessionaire include renovating the main building to accommodate a full restaurant and retail area. Within the concession area, adjacent to the main building, a new separate path needs to be developed to accommodate delivery trucks and incoming employees of the concession.

Across the main concession building, additional capital improvements that will be completed within the paddle launch area including a shade structure for waiting users and storage for vessels and life jackets. An interpretive panel is also suggested within the kayak paddling launch area to inform visitors about the mangroves and their importance to the park.

Park Entrance

- Landscaping Improvements

Beginning at the park entrance, the existing green space between the multi-use pathway and the main park road should be vegetated with native plants and trees such as Cabbage Palm (Sabal palmetto) or Paradise Tree (Simarouba glauca). This addition to the median will add aesthetic appeal to the path and provide shade to visitors utilizing the path.

Cabin Area

- Cabin renovation or replacement
- Volunteer Site
- Road stabilization
- Primitive Paddling Camp Site

The parks cabin area contains 14 cabins, a large restroom, and shower. Improvements to the area include paving the entire road leading to the cabins from the main park drive. The cabins and restrooms need replacement or renovations within the same footprint. Continued evaluation should be performed to assess long term feasibility of maintaining the park's cabins. Evaluation to repurpose area with a mix of tent and RV sites to better fit future needs should be performed. Changes could be implemented during the plan period if evaluation deems the use appropriate.

An existing clearing along the water is recommended site for a primitive paddling camp site to be used by users of the Circumnavigational Paddling Trail. Additions include a small picnic pavilion, grill, or campfire ring. One volunteer site is also recommended.

Residence Compound

- Two new residences

There is a need for up to two additional residences on the property within the already established residence compound, west of the support area.

Parkwide

- Repaving
- Sewer Connection
- Mitigate Flooding Issues

Parkwide improvements include repaving the main park road as needed and to connect any remaining park infrastructure currently on septic systems to the local sewer connection. Flooding is an issue within the main parking lot and various park and management roads. A plan should be developed with the district biologist to address the current and future flooding issues.

Visitor Use Management

The DRP manages visitor use to sustain the quality of park resources and the visitor experience, consistent with the purposes of the park. The dynamic nature of visitor use requires a deliberate and adaptive approach to managing resource impacts from recreational activity.

To manage visitor use, the DRP will rely on a variety of management tools and strategies, potentially including modes of access and limits on the number of people within certain areas of the park. Achieving balance between resource protection and public access is fundamental to the provision of resource-based recreation and interpretation. The premise of a visitor use management strategy is to protect the park's significant natural and cultural resources. A strategy may include site-specific indicators and thresholds selected to monitor resource conditions and visitor experience. By monitoring conditions over time and clearly documenting when conditions become problematic, the DRP can implement actions to prevent unacceptable resource conditions.

Levels of visitation, patterns of recreational use, and varieties of available recreational activities are routinely monitored parkwide. Indicators have shown that this park is operating sustainably for its resources and offers high quality experiences for its visitors.

Resource indicators to be considered during this planning period include:

- Continued vegetation loss along beach dunes
- Poor mangrove health at paddling launch and trail
- Erosion along park trails

Quality of visitor experience indicators to be considered include:

- Overcrowding of beach area
- Overcrowding at paddling launch point
- Litter at parks various picnic areas

Thresholds are defined as the minimally acceptable conditions for each indicator and represent the point at which resource impacts will require a change in management strategy. Thresholds are assigned based on the desired resource conditions, the data on existing conditions, relevant research studies, management experience, and current visitor use patterns. It is important to note that identified thresholds still represent acceptable resource conditions and not degraded or impaired conditions. Management actions may also be taken prior to reaching the thresholds.

Specific thresholds for resource conditions and experiential quality have not yet been established for the park. As monitoring continues, collected data may be used to determine baseline and desired conditions, thereby establishing thresholds.

Oleta River State Park Beach Area

Oleta River State Park's beach area is popular with visitors, especially during the spring and summer with hundreds of visitors on a typical weekend. Within the access points to the beach (formerly a dredged lagoon), there is noted erosion and trampling of vegetation at several beach access points. There are currently eleven beach access points, and three access points near the center of the beach area are showing signs of resource impact from visitor use. The resource impacts have been determined to warrant closure of these three access points. A restoration plan should be developed for these beach access points that will be closed. Management actions to address erosion should include, but are not limited to:

- Double lined rope borders or wood fencing at the beach side and the main back access path
- Removal of all asphalt within closed access points
- Revegetation of native plants within the removed asphalt empty space
- Removal of exotics as needed

Park staff and district biologists should continually monitor these closed access points for vegetation regrowth. Current open access points should also be monitored for noted erosion and new vegetation trampling. If there is new erosion and vegetation tramping within the currently open access points, an assessment should be completed to determine if it is appropriate to temporarily close those access points to allow for regrowth. At all current access points, double lined rope borders should be installed if needed, to protect existing vegetation. Removal of current mobi-mats should be considered and replaced with crushed shell to prevent washout from any stormwater. Relevant signage and interpretive panels should be installed to educate visitors about the importance of the representative beach dunes and the native vegetation within the dune lines.

Resiliency Planning

Climate-related shocks and stressors present new challenges to the Florida Park Service mission of providing resource-based recreation while preserving, interpreting and restoring natural and cultural resources. Parks will adapt to climate threats with prescriptive strategies to minimize and manage the impacts of more severe storms and droughts, sea level rise, invasive organisms, and other emerging environmental disturbances. Resilience strategies will be incorporated in all park plans and resource management decisions. Specific effects of sea-level rise at this park are not yet known, however, changes to the parks natural and landscapes are predictable.

Known flooding at the park occurs at the central parking lot and various management and park roads. Future studies would need to be conducted in order to address the issue of flooding and how it may affect the future of the day use area and its current infrastructure, such as the restrooms and pavilions. Currently, the main parking lot and various park and management roads are the only known area to flood for an extended period.

Further observations will be needed to access future flooding at the park and where their locations may be. At this stage in resiliency planning process, no specific developments, renovations, landscape alterations, or augmentations are proposed.

Optimum Boundary

The optimum boundary map reflects lands considered desirable for direct management by the DRP as part of the state park. These parcels may include public or privately owned land that would improve the continuity of existing parklands, provide the most efficient boundary configuration, improve access to the park, provide additional natural and cultural resource protection or allow for future expansion of recreational activities. Parklands that are potentially surplus to the management needs of DRP are also identified. As additional needs are identified through park use, development, and research, and as land use changes on adjacent property, modification of the park's optimum boundary may be necessary.

Identification of parcels on the optimum boundary map is intended solely for planning purposes. It is not to be used in connection with any regulatory purposes. Any party or governmental entity should not use a property's identification on the optimum boundary map to reduce or restrict the lawful rights of private landowners. Identification on the map does not empower or suggest that any government entity should impose additional or more restrictive environmental land use or zoning regulations. Identification should not be used as the basis for permit denial or the imposition of permit conditions.
At this time, no lands are considered surplus to the needs of the park and no additional lands are identified for acquisition.

IMPLEMENTATION COMPONENT

The resource management and land use components of this management plan provide a thorough inventory of the park's natural, cultural and recreational resources. They outline the park's management needs and problems and recommend both short and long-term objectives and actions to meet those needs. The implementation component addresses the administrative goal for the park and reports on the DRP progress toward achieving resource management, operational and capital improvement goals and objectives since approval of the previous management plan for this park. This component also compiles the management goals, objectives and actions expressed in the separate parts of this management plan for easy review. Estimated costs for the ten-year period of this plan are provided for each action and objective, and the costs are summarized under standard categories of land management activities.

Resource Management

- Mitigation project developed for recruitment of seagrass within former borrow area
- Removal project developed for exotic Australian Pine
- Throughout 2016- 2018, 21.6 acres of exotics were removed

Park Facilities

- New roofs installed on 5 cabins
- Renovations made to cabin interior
- Renovations to Blue Marlin Fish House Concession
- Two outdoor showers installed in day use area

Park Administration and Operations

- Volunteer sites added within employee compound
- Security cameras installed at ranger station
- New entrance gated installed in 2018
- Central sewer connection developed for park manager and assistant park manager residences along with support area
- Repairs made to restroom roofs within day use area

Recreation and Visitor Service

- Fishing pier renovation
- Panther and Angel Fish Pavilions added
- New interpretive panels and displays added at the Blue Marlin Fish House
- Over 667,000 visitors recorded in 2015

Management Plan Implementation

This management plan is written for a timeframe of ten years, as required by Section 253.034 Florida Statutes. The Ten-Year Implementation Schedule and Cost Estimates (Table 7) summarizes the management goals, objectives and actions that are recommended for implementation over this period, and beyond. Measures are identified for assessing progress toward completing each objective and action. A time frame for completing each objective and action is provided. Preliminary cost estimates for each action are provided and the estimated total costs to complete each objective.

Many of the actions identified in the plan can be implemented using existing staff and funding. However, a number of continuing activities and new activities with measurable quantity targets and projected completion dates are identified that cannot be completed during the life of this plan unless additional resources for these purposes are provided. The plan's recommended actions, time frames and cost estimates will guide the DRP's planning and budgeting activities over the period of this plan. It must be noted that these recommendations are based on the information that exists at the time the plan was prepared. A high degree of adaptability and flexibility must be built into this process to ensure that the DRP can adjust to changes in the availability of funds, improved understanding of the park's natural and cultural resources, and changes in statewide land management issues, priorities and policies.

Statewide priorities for all aspects of land management are evaluated each year as part of the process for developing the DRP's annual legislative budget requests. When preparing these annual requests, the DRP considers the needs and priorities of the entire state park system and the projected availability of funding from all sources during the upcoming fiscal year. In addition to annual legislative appropriations, the DRP pursues supplemental sources of funds and staff resources wherever possible, including grants, volunteers and partnerships with other entities. The DRP's ability to accomplish the specific actions identified in the plan will be determined largely by the availability of funds and staff for these purposes, which may vary from year to year. Consequently, the target schedules and estimated costs identified in Table 7 may need to be adjusted during the ten-year management planning cycle.

Table 7. Ten-Year Implementation Schedule and Cost Estimates

Goal I: Provide administrative support		**Measure**	**Planning Period**	**Estimated Cost**
Objective A	Continue administrative support	Administrative support ongoing	C	$2,310,000
Goal II: Protect water quality and quantity in the park, restore hydrology, and maintain the restored condition.		**Measure**	**Planning Period**	**Estimated Costs**
Objective A	Restore and improve water flow to isolated mangrove swamp and improve flooding in developed areas.	Project Complete	ST	$275,000
Action 1	Restore tidal flow to 26.7 acres of mangrove community	Project complete	ST	$250,000
Action 2	Maintain culverts	Annual inspection	C	$25,000
Objective B	Monitor and analyze water resources at the park	Documentation	C	$2,000
Action 1	Maintain communication with Miami – Dade DERM	Documentation	C	$1,000
Action 2	Park and district staff should assist in the development, review, and comment of local government activities that could affect the environmental integrity of park waters.	Documentation	C	$1,000

Objective C	Conduct hydrological assessment to identify additional needs	Assessment complete		$200,000
Action 1	Identify additional mangrove swamp which would benefit from restored tidal flow	# acres		$100,000
Action 2	Identify solutions to flooding issues including parking areas and roads	# issues identified		$100,000
Goal III: Restore and maintain the natural communities in the park		**Measure**	**Planning Period**	**Estimated Costs**
Objective A	Conduct natural community restoration on 170 acres of spoil to transition into representative maritime hammock	# acres treated	LT	$500,000
Action 1	Treatment and maintenance of non – native invasive vegetation	# acres treated	C	$400,000
Action 2	Revegetation with native plants representative of maritime hammock natural community	Revegetation complete	ST	$100,000
Goal IV: Maintain, improve, or restore imperiled species habitats		**Measure**	**Planning Period**	**Estimated Cost**
Objective A	Update baseline imperiled species occurrence inventory list for plant and animals	List (developed) updated	C	$10,000
Action 1	Develop a monitoring protocol to identify and update the imperiled species list	Protocol developed	ST	$10,000
Objective B	Monitor & document imperiled plant species in the park	# species	C	$31,000
Action 1	Monitor seagrass within the "no motor zone" of the restoration area	% coverage	C	$20,000
Action 2	Monitor and document occurrences of the American crocodile (Crocodylus acutus)	# species documented	C	$1,000
Action 3	Monitor and document gopher tortoise population	# individuals documented	C	$10,000
Goal V: Remove non – native invasive plant and animal species from the park and conduct needed maintance control		**Measure**	**Planning Period**	**Estimated Costs**
Objective A	Annually treat 86 gross acres of exotic plant species	# Acres treated	C	$600,000

Action 1	Annually update exotic plant management work plan	Assessment conducted	C	$5,000
Action 2	Implement annual work plan by surveying and treating 86 infested acres (170 gross) of invasive infestation.	Plan implemented	LT	$595,000
Objective B	Implement control measures on non-native invasive animal species in the park	# species for which control measures implemented	C	$100,000
Action 1	Seek out and remove the non-native green iguana	# species removed	C	$95,000
Action 2	Utilize an early detection rapid response to new invasive species.	# species detected and action taken	C	$5,000
Objective C	Monitor Sandspur Island for invasive and nuisance species	# species for which monitoring is implemented	C	$65,000
Action 1	Replace current trash receptacles with animal resistant bins	# of trash receptacles replaced	ST	$0
Action 2	Conduct an assessment of island racoon population to	# of individuals counted	C	$5,000
Action 3	Survey Sandspur Island every two years for invasive plant species and conduct treatment as needed	# acres surveyed and treated	C	$60,000
Goal VI: Protect, preserve and maintain the cultural resources		**Measure**	**Planning Period**	**Estimated Costs**
Objective A	Compile reliable documentation for all recorded historical and archaeological sites	Documentation complete	LT	$0
Action 1	Conduct Level 1 archaeological survey	Assessment conducted	LT	$0
Goal VII: Provide public access and recreational opportunities		**Measure**	**Planning Period**	**Estimated Costs**
Objective A	Maintain the park's current public access points and recreational uses	#Recreation/ visitor	C	$1,650,000
Objective B	Plan and develop new interpretive opportunities	#Interpretive/ education programs	ST	$10,000
Goal VIII: Develop and maintain the capital facilities and infrastructure		**Measure**	**Planning Period**	**Estimated Costs**
Objective A	Maintain all public and support facilities	Facilities maintained	C	$2,000,000
Objective B	Improve 8 use areas	#Facilities/ Miles of Trails/Miles of Roads	LT	$1,184,000

Total Ten-Year Estimated Costs	
Administrative and Support	$2,310,000
Resource Management	$1,783,000
Recreational Visitor Services	$1,600,000
Infrastructure Improvements	$3,184,000
Total	**$8,870,000**

Addendum 1—Acquisition History

Land Acquisition History Report

Park Name	Oleta River State Park
Date Updated	2/17/2022
County	Miami - Dade
Trustees Lease Number	Lease No. 3154
Current Park Acreage	1,032.78

Management Lease & Amendments

Lease Number	Date Leased or Amended	Initial Lessor	Initial Lessee	Current Term	Expiration Date
Parent Lease No. 3154	6/9/1980	The Board of Trustees of the Internal Improvement Trust Fund of the State of Florida	Florida Department of Natural Resouces, Division of Recreation and Parks	50 years	6/9/2030
Lease No. 3154 Amendment #1	7/8/1980	The Board of Trustees of the Internal Improvement Trust Fund of the State of Florida	Florida Department of Natural Resouces, Division of Recreation and Parks	50 years	6/9/2030
Lease No. 3154 Amendment #2	6/22/1987	The Board of Trustees of the Internal Improvement Trust Fund of the State of Florida	Florida Department of Natural Resouces, Division of Recreation and Parks	50 years	6/9/2030
Lease No. 3154 Amendment #3	7/21/1997	The Board of Trustees of the Internal Improvement Trust Fund of the State of Florida	Florida Department of Environmental Protection, Division of Recreation and Parks	50 years	6/9/2030

Acquisition History

Parcel DM-ID	Date Acquired and Funding Source	Grantor	Grantee	Acreage	Instrument Type
DM-ID 106951	6/15/1976	City of North Miami	Trustees	129.41	Special Warranty Deed
DM-ID 372344	6/9/1980	Inter American Center Authority	Trustees	1.79	
DM-ID 372344	6/9/1980	Inter American Center Authority	Trustees	3.28	
DM-ID 372344	6/9/1980	Inter American Center Authority	Trustees	28.47	
DM-ID 372344	6/9/1980	Inter American Center Authority	Trustees	69.33	
DM-ID 372344	6/9/1980	Inter American Center Authority	Trustees	702.65	
DM-ID 29124	7/8/1980	BTIITF	DRP	28.43	
Submerged Lands Lease	6/22/1987	BTIITF	DRP	39.11	
DM-ID 2370	3/28/1995 P2000	Resolution Trust Corporation	Trustees	30.29	Special Warranty Deed

Addendum 2—Advisory Group Members and Report

Local Government

The Honorable Phillipe Bein – Aime, Mayor
City of North Miami

The Honorable Jean Monestime
Miami Dade County Commission, District 2

Alejandro Zizold, PROS Master Plan Manager
Miami Dade Parks & Recreation

Jerry Bell, Assistant Director
Miami Dade County Planning Department

Katie Hagemann, Programs Manager
Miami Dade Resilience Office

Rashid Istambouli, Senior Chief
Miami Dade – Department of Environmental Resource Management

Craig Grossenbacher, Chief
Miami Dade – Department of Environmental Resource Management

John Copeland, Director
Miami Dade – Department of Cultural Affairs

Partnering State Agencies

Jason O'Donoughue, Ph.D.
Division of Historical Resources

Jason Love, State Lands Management Coordinator
Florida Forest Service

Kevin MacEwen, District Manager
Florida Forest Service – Everglades District

Erin McDevitt,
Florida Forest Service – South Region

Nicholas Olge, Outreach Assistant Director
Florida International University

Environmental Organizations

South Dade Soil and Water Conservation District

Paola Ferreria Miani, President
Audubon Martin County

Jenna Taylor, South Region Manager
Florida Trail Association

Florida Native Plant Society – Dade Chapter
Sierra Club – Miami Group

Park Management

Charles Smith, Park Manager
Florida Park Service

Adjacent Landowners

Allan McHenry
Randy Ramharack

Local Stakeholder Groups

Patricia Leon, Director
Nature Play School

Raymond Cidad, Director
Camp Guaikinima

Citizen Support Organization

Nina Jackson, President
Friends of Oleta River State Park

Brian Chimielewski, Concession Manager
BG Signatures

The Advisory Group Public Meeting for the draft plan of Oleta River State Park was held on March 9, 2022 in North Miami, Florida at the Florida Fish and Wildlife Commission Law Enforcement Offices – South Region B.

To begin the meeting, Ms. Armaghani, welcomed attendees to the public advisory group meeting for the draft unit management plan for Oleta River State Park. Additional members of the Florida Park Service present at the meeting included: District 5 Bureau Chief Kevin Jones, District Biologist Scott Tedford, and Park Manager Charles Smith.

To begin the presentation, Ms. Armaghani provided background information on the park itself including what recreation opportunities can be found along with visitation statistics from the 2020/2021 fiscal year and trends of general visitation at the park during the year. Further background information presented were the natural communities present over the park's 1,032 acres and the different imperiled species that can be found. Next, the resource management objectives for the next 10 years were presented along with the Conceptual Land Use Plan map which laid out all proposed developments and improvements to the park in their use areas.

Following the conclusion of the presentation, there was a question and answer session where the public and advisory group had an opportunity to ask any additional questions they might have had regarding the draft plan.

Following the question and answer session, Ms. Armaghani concluded the meeting by providing additional information on the next steps of the draft plan including a two-week comment period that would end on March 24, 2022, and after that any needed revisions would be made to the plan. Ms. Armaghani also informed the attendees of the public meeting that the plan would be later submitted to the Division of State Lands where they had 100 days to review the plan for hopeful approval on the August Acquisition and Restoration Council.

Summary of Advisory Group Comments

Multiple questions were asked about the park's spoil island, Sandspur Island. Members from the Miami – Dade Department of Environmental Resource Management (DERM) inquired about the addition of an objective within the draft plan about continued efforts to maintain the islands vegetation even with the plan stating the island was fully restored of exotics in 1993. There we also additional questions an objective or action in the plan about the day to day operations of the islands including the raccoon population and general maintance like trash pickup. Mr. Maldonado added that the unit management plan is more focused on resource management and future infrastructure developments and larger goals and objectives, rather than day to day operations which are managed by the park management on a day to day basis. District Biologist Scott Tedford added saying that an objective regarding continued maintance of Sandspur Island and related additional language to maintance will be added to the plan.

The Aquatic Preserve Manager inquired about the exact location of the proposed of the new fishing pier at the Intracoastal Use Area and why that location was chosen based off the Conceptual Land Use Plan Map. Ms. Armaghani responded noting that the Conceptual Land Use Plan Map depicts the general use area of where proposals would be located and that the exact placement of the fishing pier within the use area will later be vetted by park

management and district. Additional questions from members of the advisory group included what where the main differences in proposed developments from the current 2008 plan and the presented draft plan.

Summary of Written Comments from Advisory Group Members

Florida Forest Service (FFS) commented on the park's timber assessment, prescribed fire, pest/pathogens, and resiliency planning. Any future plans of prescribed fire in the park, FFS recommended to address the quality of the burn, this would include burning in the appropriate season of the year and fire return interval. To reduce the risk of various pest and pathogens being brought into the park, FFS added that visitors are not allowed to bring in their own firewood into the cabin area, and that safer firewood options be should be provided locally thru a known vendor. The Forest Service also noted the addition of the DRP Resiliency Statement to the plan. Lastly, FFS commented on the parks acquisition history noting the time range of the draft UMP to be from 2022 – 2032, but the lease was to expire on June 9,2030. FFS suggested the addition of a statement within the plan of DRP/DEP plan regarding management once that lease expires. Lastly, FFS stated the need to add and conduct a timber assessment for the park and include it in the draft plan as the park is over 1,000 acres.

Miami Dade County, Office of Resilience and Parks, Recreation and Open Spaces Department (PROS) commented on climate change, sea level rise, equity and access, water quality, and general water recreation access into the park. Regarding water quality, the Office of Resilience suggested that all park buildings still using septic be connected to centralized sewer to improve general water quality. Additional comments included the addition of another entry point to the park to accommodate visitors coming in on foot or bike to be easily accessible, as the parks main entrance is currently off a busy road that would only be accessible to visitors with personal vehicles. PROS also suggested the development of new kayak / paddling points along the Oleta River within the park boundary.

Miami Dade Department of Regulatory and Economics – Environmental Resources Management (RER- DERM) commented on the park's spoil island, Sandspur Island. RER-DERM recommended the addition of an objective that would provide management strategies and goals to address various issues of the island including routine trash removal, island maintance including exotic plant removal, frequent site visits by park staff to monitor critically imperiled Biscayne prickly ash. Comments from RER- DERM also included the consideration of deprioritizing Johnson's seagrass as imperiled in the plant, and to focus efforts increased monitoring on other imperiled plants within the park, such as the Biscayne prickly ash. RER - DERM also made several editorial comments on the plans natural community map to ensure that all maps in the plan accurately represent the current conditions of the natural communities. Additional editorial comments included spelling corrections, scientific nomenclature consistently, and checking to review the imperiled species list for accuracy.

The Florida Fish and Wildlife Conservation Commission (FWC) commented on the park's two restoration projects of the isolated mangrove areas and the Johnson's seagrass within the Marine Unconsolidated Substrate management measures. Regarding the isolated mangrove restoration, FWC noted that the current language indicates a need for engineering and design work, when that has already been completed. Regarding the seagrass restoration,

FWC recommend that if the restoration project was to be successful, that the draft plan should suggest other restoration activities within the park should be planned and implemented. FWC also recommended removing language from the plan listing Johnson's seagrass as imperiled as the plant species is in the process of being delisted from the National Marine Fisheries Services.

Summary of Written Public Comments

No additional public comments where received during the two-week comment period.

Staff Recommendations

Staff recommendations to the draft plan include the addition of a timber assessment to the plan's addendum. Based off the recent information of Johnson's seagrass status of currently being delisted as in imperiled species, the plant species will be removed from the Imperiled Species Inventory Table (Table 3) in the plan and mention of its status will also be removed. Recommended editorial corrections will be made along with updating the natural community map to reflect its current state. Lastly, an additional objective will be added regarding Sandspur Island with supporting text of the parks current and future management procedures to manage the island.

Notes on Composition of the Advisory Group

Florida Statutes Chapter 259.032 Paragraph 10(b) establishes a requirement that all state land management plans for properties greater than 160 acres will be reviewed by an advisory group:

> *"Individual management plans required by s. 253.034(5), for parcels over 160 acres, shall be developed with input from an advisory group. Members of this advisory group shall include, at a minimum, representatives of the lead land managing agency, co-managing entities, local private property owners, the appropriate soil and water conservation district, a local conservation organization, and a local elected official."*

Advisory groups that are composed in compliance with these requirements complete the review of State park management plans. Additional members may be appointed to the groups, such as a representative of the park's Citizen Support Organization (if one exists), representatives of the recreational activities that exist in or are planned for the park, or representatives of any agency with an ownership interest in the property. Special issues or conditions that require a broader representation for adequate review of the management plan may require the appointment of additional members. The DRP's intent in making these appointments is to create a group that represents a balanced cross-section of the park's stakeholders. Decisions on appointments are made on a case-by-case basis by Division of Recreation and Parks staff.

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Oleta River State Park

Public Advisory Group Meeting – 3/9/2022

Oleta River State Park

Public Advisory Group Meeting – 3/9/2022

Agenda

- Introductions
- Background Information
- Management Objectives
- Question & Answer
- Open Discussion

Oleta River State Park

Public Advisory Group Meeting – 3/9/2022

Recreational Opportunities

- Paddling / Kayaking
- Camping
- Fishing
- Biking

Visitor Attendance

- 315,231 Visitors – 2020/2021 Fiscal Year
- Steady attendance
- Increase in Spring / Summer

Oleta River State Park

Public Advisory Group Meeting – 3/9/2022

Natural Communities

- Mangrove Swamp – 462 acres
- Altered Landcovers – 356 acres
- Marine Unconsolidated Substrate – 154 acres
- Maritime Hammock – 48 acres
- Marine Consolidated Substrate – 11 acres
- Beach Dune – 2 acres
- **Total Acreage – 1,032 acres**

Imperiled Species

- Gopher tortoise
- Little blue heron
- Golden leather fern

Oleta River State Park

Public Advisory Group Meeting – 3/9/2022

Resource Management Objectives

Hydrological Management

- Restore and improve water flow to 26.7 acres of isolated mangrove swamps and reduce flooding in developed areas

Natural Communities Management

- Conduct natural community restoration on 170 acres of spoil and transition into representative maritime hammock

Imperiled Species Management

- Monitor Johnson's seagrass within a mitigation area
- Monitor and document the American crocodile and gopher tortoise

Non-Native and Nuisance Species Management

- Annually treat 86 infested acres of non-native plant species including: Australian Pine and Spanish stopper
- Implement control measures of one nuisance and non-native animal species, the Green iguana

Cultural Resource Management

- Conduct a level 1 archeological survey for priority zones identified by the predictive model


Park Entrance
Landscaping Improvements
Residence Area
Two residences
Support Area
Reorganize Shop Area
Mitigate Flooding Issues
Pole Barns (3)
Administrative Office
Cabin Area
Cabin renovation/replacement
Volunteer Site
Road Stabilization
Concession Area
Renovate / expand concession building
Path development
Interpretive Panel(s)
Intracoastal Use Area
New Fishing Pier
North Beach Use Area
Restroom Renovations
Upgrade Playground
South Beach Use Area
Replace Fishing Pier
Restroom Renovations
Proposed Developments
Protected Zones
Park Boundary
Trails
Park Road Paved
SFWMD GIS Services Maxar

Oleta River State Park

Public Advisory Group Meeting – 3/9/2022

Comment Period

Open Through March 24

FloridaDEP.gov/Parks/Public-Participation

Yasmine.Armaghani@FloridaDEP.gov

PLEASE SIGN IN (PRINT CLEARLY)

OLETA RIVER STATE PARK
ADVISORY GROUP PUBLIC MEETING
MARCH 9, 2022

	PRINT NAME	EMAIL ADDRESS (NOTE: UNDER FLORIDA LAW, EMAIL ADDRESSES ARE PUBLIC RECORDS.)	
1.	JOHN COPELAND	john@gmcvb.com	☑ Check Box for Advisory Group Member
2.	Nina Jackson - Friends of Oleta	ninaajackson@hotmail.com oletaspfriends@gmail.com	☑ Check Box for Advisory Group Member
3.	Josh Mahoney Representing DERM	Josh.Mahoney@miamidade.gov	☐ Check Box for Advisory Group Member
4.	CARLOS LOPEZ	CARLOS.LOPEZ6@MIAMIDADE.GOV	☐ Check Box for Advisory Group Member
5.	Maria N. Reynaga	mreynaga@bgsignature.com	☐ Check Box for Advisory Group Member
6.	Mary Ziger MDC-DERM	rosem@miamidade.gov	☐ Check Box for Advisory Group Member
7.	Laura Eldredge	laura.eldredge@FloridaDEP.gov	☐ Check Box for Advisory Group Member
8.	Patricia Leon	Contact@miaminatureplayschool.com	☐ Check Box for Advisory Group Member
9.			☐ Check Box for Advisory Group Member
10.			☐ Check Box for Advisory Group Member

From: Edwards, Mike
To: Armaghani, Yasmine; Degagne, Demi
Cc: Knapp, Todd
Subject: Oleta River State Park Advisory Meeting Comments
Date: Friday, February 25, 2022 10:21:35 AM

Hello,

I will not be attending the Oleta River State Park Advisory Group Meeting due to the distance from my Brooksville office.
Please see my comments below for the Oleta River State Park Draft 2022 Unit Management Plan.

Over all the plan looks really good. I like the new format that has summary pages at the front.

I do have some comments/ edits for this UMP.

- Based on the 2013 LMR Report there are several updates from the previous 2008 UMP that should be made to the 2022 UMP.

- **Timber assessment**- A timber assessment was inferred to on page 41 of the 2022 UMP. As required by Florida Statutes Section 1. Section 253.036, any state owned land more than a 1,000 acres must have a timber assessment by a professional forester. I realize from reviewing the UMP that there isn't a commercial timber resource on ORSP, but an official timber assessment needs to be done to determine this. DEP/DRP has a contract with F-4 Tech to do this type of work. If the park has not had this done, I would recommend having it done soon and to be included as an addendum in the UMP.

- **Prescribed fire**- make sure to address quality of the burn. This could include appropriate season of the burn, desired effects of the burn (complete vegetation consumption vs. a matrix), acceptable overstory tree mortality etc. Also address number of FNAI fire type acres and the FNAI suggested frequency or fire return interval (FRI). Coordinate with FFS burn mitigation team for wildland urban Interface (WUI) prescribed burns and fuels reduction projects. Coordinate with FFS on wildfire control.

1. **Pest/Pathogens**- don't allow campers to bring in their own firewood. Have public information about the spread of invasive exotics from firewood. Provide safe local firewood options through a vendor if possible. Coordinate with FFS Forest Health section for tree pest and disease issues when needed for example lethal bronzing disease (LBD of palms.

- **Resiliency Planning**- I like the DRP Resiliency Statement, I think it is broad enough to cover issues that may arise within the timeframe of this UMP.

- **Clarification-** What are the total acres of ORSP? On page i it says 1,013.64 acres. On page 1 it

says over 1,030 acres and then later it says 1,032.84 acres.

- **Acquisition History-** on page 1 under it Acquisition History section, it states that the current lease will expire on June 9, 2030. The New UMP is for ten years (2022-2032). What does this mean for DEP/DRP as far as management? What happens in 2030 when the lease expires? I think there should be a statement of if the park will pursue renewing the lease, since the UMP covers the timeframe when the lease will expire.

Michael Edwards
Senior Forester
Florida Forest Service
Other Public Lands Regions 3 & 4
Michael.Edwards@FDACS.gov

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Miami-Dade County
111 NW 1st Street
Miami, FL 33128
T 305-375-5593

March 24, 2022

Yasmine Armaghani
Florida Department of Environmental Protection
Division of Recreation and Parks/Office of Park Planning

Re: Oleta River State Park Draft Unit Management Plan

To Ms. Armaghani

Thank you for the opportunity to comment on the Oleta River State Park Draft Unit Management Plan. The park is a tremendous asset to our community and we would like to thank your department for its stewardship of the site. As you consider your priorities for the coming years, we would like to share the comments below for your consideration.

Climate Change

Our climate is changing, and restoration and management efforts should be viewed through the lens of these shifting conditions. Across the globe animal and plant species are losing their native habitats due to increasing temperatures and other pressures. Recognizing and responding to these conditions is essential to reduce the number of species extinctions that are expected over the coming years.

The National Parks Service notes that "For decades, parks were managed to maintain a baseline "natural" condition. But climate change is creating a new and dynamic environment in which we cannot always assume a continuation of historical patterns."[1] The National Parks Service's strategy for responding to climate change notes that, "Climate change will create novel communities and environments (conditions and ecosystems unlike any found today) … the future will be characterized by climatic and seasonal patterns for which we have no modern or historical reference."[2]

Sea Level Rise

Sea levels have already risen approximately ten inches in Miami-Dade County since tidal records began in the 1930s. Sea levels are expected to be one foot higher by 2040-2050. Two feet of sea level rise is expected between 2050 and 2090. The upper bound of potential sea level rise is significantly higher. For

[1] https://www.nps.gov/subjects/climatechange/planning.htm
[2] https://www.nps.gov/subjects/climatechange/upload/Climate-Change-Response-Strategy_508.pdf

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all planning purposes Miami-Dade County relies upon the 2019 Unified Sea Level Rise Projections for Southeast Florida.[3]

Changing water levels are very likely to impact existing ecosystems. The exact magnitude of the impact depends upon the rate of sea level rise, the resilience of the natural systems to these changes, and their resilience to other on-going stresses such as degradation of water quality. There are many areas where additional research and monitoring could help mitigate these risks. For example, by monitoring the rate of vertical accretion in the mangrove stands the park could contribute to fundamental scientific understanding of the ability (or inability) of these ecosystems to keep pace with sea level rise. Similarly, there may be passive management measures, such as sand fencing, that may help other ecosystems such as the beach dunes to adapt to rising water levels by accelerating vertical accretion.

Equity & Access

Given the park's location off a busy, wide road, with limited sidewalks most visitors currently access the park with personal vehicles. It would be advantageous to explore ways to increase the accessibility of the park to residents who do not own a car. This could be achieved with enhanced bus service, working with FDOT to improve the roadway for bikes and pedestrians, or working with private partners such as community organizations to organize special shuttle services. Similarly, there could be opportunities to improve pedestrian and bike access to the park from other entry points, such as near the annex or near the existing school campuses on Bay Vista.

Water Quality

The plan recognizes the importance of water quality and notes that water quality in Oleta River and Biscayne Bay have declined for many reasons. One important contributor to declining water quality that is not mentioned in the report is the use of septic systems in coastal environments. Furthermore, it is recommended that all buildings within the park that are still using septic systems be connected to the centralized sewer to improve water quality and reduce their vulnerability to failure in the event of storm or rising groundwater levels.

It is recommended that the use of fertilizers, pesticides, and insecticides be limited or eliminated to minimize the impacts to water quality.

Water Recreation Access

The Parks, Recreation and Open Spaces (PROS) Waterfront Recreation Access Plan (WRAP) in addition to the Florida Department of Environmental Protection, identify Snake Creek and the Oleta River Corridor for saltwater non-motorized paddling uses. The WRAP also recommends introducing new kayak/paddle launch points along the river within Oleta River State Park. The recommendations represent popular and accessible water trails and were developed through public engagement and staff input.

[3] https://southeastfloridaclimatecompact.org/unified-sea-level-rise-projections/

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The WRAP also recommends the development of a partnership among Miami-Dade County, Oleta River State Park, and Florida International University (FIU) for cooperative construction and management of a managed mooring field, kayak launch and weekend boat ramp operation. Managed mooring fields provide a formally managed area for boat anchorage and mitigates sea grass destruction from unmanaged anchorage. The FIU/Oleta State Park basin is another opportunity for a partnership with Miami-Dade County PROS. Recommendations identify this area as an alternative site for a potential weekend public boat ramp and a kayak launch.

Haulover Marina is the County's busiest boat ramp and is most widely known for its sandbar anchorage within the Park's submerged land lease. As of the WRAP development, the sandbar anchorage is currently planned for removal by the United States Army Corps of Engineers (USACE) as part of a beach renourishment project south of Haulover Cut. The USACE and Florida Inland Navigation District (FIND) are evaluating the environmental impacts of re-routing the Intracoastal Waterway west of Sandspur Island.

Thank you for your consideration,

Miami-Dade County, Office of Resilience

Miami-Dade County Parks, Recreation and Open Spaces Department

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Oleta River State Park
c/o Charles Smith, Park Manager
3400 NE 163rd St
North Miami Beach, FL 33160

March 24, 2022

Re: Oleta River State Park Unit Management Plan

Dear Mr. Smith,

Thank you for the opportunity to be a part of Oleta River State Park's ("Park") Unit Management Plan Advisory Board and the Park's efforts to envision and implement its management goals. Please find below summary comments being provided by Miami-Dade County's Department of Regulatory and Economic Resources – Division of Environmental Resources Management (RER-DERM) to assist Park staff in these efforts.

Miami-Dade County RER-DERM Priorities

- Sandspur Island is only referred to in the Draft Unit Management Plan insofar as its natural history and that it is a popular recreation destination in Biscayne Bay (i.e., pages iii, 47, 54). Specifically, the more intensive uses of Sandspur Island, noted as an issue in the 2013 Land Management Review Team Report and subsequently discussed as recently as February 2020 (see Attachment A), have been cause for concern by RER-DERM, the Park, Biscayne Bay Aquatic Preserves, Florida Fish and Wildlife Conservation Commission and other law enforcement agencies. More intensive uses and activities include but are not limited to destruction of restored native plant communities, impacts to submerged aquatic vegetation associated with intensive vessel use, construction of authorized structures, open burning, increased amounts of trash and debris some of which is associated with unauthorized food vendors, destruction of signage, impacts to native wildlife. RER-DERM currently includes Sandspur Island on a weekly waste removal contract, as well as contract Miami-Dade County Department of Parks, Recreation and Open Spaces – Division of Natural Areas Management to remove exotics on an annual basis. Additionally, RER-DERM staff conduct site inspections of Sandspur Island bimonthly to assess current conditions and document impacts from visitor use. RER-DERM requests the following issues be considered and associated management actions identified.
    - The Park is encouraged to develop and implement a management strategy to address its stewardship responsibilities of Sandspur Island, in accordance with Ch. 62D-2, F.A.C., and more substantially support efforts by RER-DERM (i.e., trash, garbage and marine debris removal, land management including exotics control, improved signage, site inspections including monitoring the thriving population of critically imperiled *Zanthoxylum coriaceum*, Biscayne prickly ash). As part of a larger strategy, the unique issues involved in accessing and working on Sandspur Island should be addressed, namely access to the island by vessel and other associated logistical concerns.
    - The 2013 Land Management Review Team Report attached to the Draft Unit Management Plan includes a recommendation that "DRP and park staff further assess boating access and public use on the maritime hammocks of Sandspur Island to determine new goals for resource protection and reduce negative visitor impacts" (Pg 5 of Addendum 8). Any such goals should be included within the Draft Unit Management Plan.

Natural Resource Management Comments

- **Maps and Figures** – Ensure that all maps and figures accurately represent current natural resource conditions in the Park, as several maps and figures included in the current Draft Unit

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Management Plan are inaccurate. The following are representative examples. In addition, and for ease of reference, please find attached a map illustrating the approximate boundaries of existing restoration and enhancement areas within the Park (Attachment B).

- Ex: Pg. 19- "Existing Conditions" (and specifically, "Spoil Area") is inaccurate as it does not accurately depict or quantify the location and scale of the natural communities and altered landcovers as they currently exist or have existed over the past decade. More specifically, many of the ecological restoration and enhancement projects conducted by RER/DERM, in partnership the FDEP/Division of Recreation and Parks, are not shown in the subject map or described in the narrative portions of the Draft Unit Management Plan. Areas that have been restored to mangrove swamp and maritime hammock are shown as spoil areas. A portion of the area labeled "SA" was restored to a mangrove wetland habitat by RER-DERM. Ensure the reference to 86 infested acres slated for exotics removal is accurate and does not include restored areas. Relatedly, Table 2 on Pg. 18 includes acreages would need to be updated, along with any and all acreage related to natural communities and altered landcover types throughout the document, including the Natural Communities table on pg. iii of the Executive Summary.
- Ex: Pg. 32 - freshwater wetland area located next to the group camping area is not noted herein. *Note: RER-DERM had obtained funding to enhance this feature but the Park was not interested in pursuing restoration and enhancement efforts at that time.*
- Ex: Pg. 8 - Golden leather fern is an imperiled species but listed as an invasive species to be managed; Jamaican caper as opposed to Jamaica caper, Chinese ladder brake fern. Consider reviewing document to ensure accuracy of invasive and native species lists as well as how comprehensive these lists are. For example, lion fish are not mentioned in the document; however, at some point years ago the Park engaged with the Biscayne Bay Aquatic Preserve to partner in order to conduct site surveys and removal activities along the Park's rip rap areas.
- Pg. 58, Table 7- References to Objective A and Objection A, Action 1 being complete are inaccurate; these activities are still in the permitting process.
- Pg. 59, Table 7, con't- Reference is made to a focus on maritime hammock restoration. RER-DERM would suggest a more holistic approach to restoration in the Park- i.e., if restoring and maintaining natural communities is a priority for the Park per Goal III of Table 7, consider planning for restoration that includes coastal strand, dunes maritime hammock, and wetlands. Also, does $100,000.00 referenced in the table represent one-time costs? If so, for what activities? If it is intended to represent costs for ongoing activities over time, this amount may underrepresent true costs of enhancing and maintaining these habitats over the allotted period.
- Pg. 45- "Biking" on legend is inaccurate; using outdating information to create the document's map; shows park road going through restored habitat along Oleta River.

- **Monitoring Activities** – Consider what existing monitoring is occurring by partner agencies including but not limited to Miami-Dade County RER-DERM and the extent to which resource monitoring activities are a prudent use of the Park's resources and staff time. The following are representative examples.
  - Pg. iv- Consider deprioritizing monitoring of *Halophila johnsonii* which is slated to be delisted and use these resources elsewhere, such as increased monitoring of the critically imperiled *Zanthoxylum coriaceum*, Biscayne prickly ash on Sandspur Island. References to *Halophila johnsonii* as a restoration project are not entirely accurate; the mitigation goal was not *Halophila johnsonii* restoration per se but rather to regrade bay bottom by adding sediment and reducing depth to surface to encourage seagrass growth.
  - Pg. 23- RER-DERM's natural and artificial reef monitoring programs incorporate this artificial reef into their regular sampling.

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- Pg. 29- $1000.00 is allotted to American crocodile monitoring in the park, but what will this entail? Is this the cost associated with capturing opportunistic sightings by staff and/or park visitors or engaging in an active monitoring program, in which case this cost may underrepresent funding needed? Also, to what extent can the Park engage with FWC American crocodile experts and what is the status of their monitoring in this area?
- The Park's goal of protecting water quality is commended, and RER-DERM remains a strong partner to support the Park's efforts. Additionally, the Park's goals to inspect culverts and other infrastructure to ensure water quality and wetland and other habitats remain viable and thrive are supported and appreciated.

- **Park Uses and Activities**- Recreational activities should coexist with the Park's stated priority of restoring and maintaining natural communities; therefore, plans to expand visitor use structures and trails should not conflict with the Park's priority to restore, maintain, or preserve natural resource communities. The following is a representative example.
  - Pg. 24- Consider conflict of having direct impacts to restored hammock through the creation and expansion of new bike trails.

Technical and Editorial Comments
The following are representative examples.

- **Scientific Nomenclature**
  - Ensure that all scientific names are italicized or underlined
  - Select a preferred reference for a species and keep consistent throughout document
    - Ex: Florida manatee referred to differently throughout document
- **Spelling and Grammar**
  - Pg. 9 of PDF – Cassius blue is spelled incorrectly

In closing, RER-DERM remains a committed partner to the Park in its resource management and restoration and enhancement efforts. Staff are available to engage in a more in-depth discussion should that be helpful to Park staff.

ATTACHMENTS: Attachment A – Draft Agenda Regarding Island Management, February 2020, Meeting of Resource Agencies
Attachment B – Map Depicting Boundaries of Existing Restored and Enhanced Areas

Yours,

on behalf of

Craig Grossenbacher
Chief, Water Resource Coordination Division
Department of Regulatory and Economic Resources- Environmental Resources Management
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ATTACHMENT A

North Biscayne Bay Spoil Islands (Oleta River State Park and other State-managed Islands) Inter-Agency Meeting Agenda, February 10, 2020

North Biscayne Bay Spoil Islands (Oleta River State Park and other State-managed Islands)

Inter-Agency Meeting Agenda

Monday, February 10, 2019, 9:00-11:00am

FWCC Regional Office (South Region B) 3200 NE 151 Street, North Miami, FL 33181Room TBD

1. Welcome & Introductions
2. Purpose of Meeting
3. Description and Location of Sandspur Island and other state-managed islands (Little Sandspur, Quayside, Tern, and Sandpiper) – map provided
4. DERM Island Resource Management and Enhancement Activities
    a. Overview of Island Enhancement Efforts
    b. Spoil Island Maintenance Services Contract
        i. MDC vendor conducts weekly (every Monday) cleanup of Sandpiper (#15), Little Sandpiper (#14), Tern (#10), and Sandpiper (#9); and monthly (last Monday of the month) cleanup of Quayside (#11)
        ii. Annual treatment/removal of nonnative and invasive vegetation
        iii. Baynanza
5. DEP – BBAP Island Management
    a. Deeds within BBAP & Chapter 18-18 F.A.C.
    b. Other state regulations
    c. Management Efforts
        i. Adopt-an-Island Program
        ii. Informational Signage
6. Patterns and Intensity of Usage and Associated Resource Impacts
    a. Unauthorized events and activities
        i. Afterhours DJ/Dance Parties
        ii. Fee-based events
        iii. Jet ski rentals and other unpermitted commercial activities
        iv. Transient food and alcohol concessions
        v. Overnight camping
    b. Unauthorized impacts to habitat and amenities
        i. Construction of illegal and unsafe structures
        ii. Open burning
        iii. Trimming, clearing, and burning of restored vegetation (e.g. coastal hardwoods, sea oats, herbaceous coastal wetland vegetation, and mangroves)
        iv. Planting of nonnative and invasive vegetation
        v. Destruction and vandalism of park features (e.g. signage, picnic tables, and trash receptacles)
        vi. Habitation
7. Marine Debris
    a. Accumulation on islands
    b. Hurricane Debris (Irma 9/2017)
        i. Status of work under NOAA grant (DEP) and timeline for contract initiation and implementation
8. Park Management vs. Resource Management
    a. Posted park rules and regulatory signage – is this happening and is it effective (currently one sign referencing Ch. 62D-2, F.A.C.)?
    b. Status of enforcement of park rules (FWCC or FDEP)
    c. Specific point of contact for Sandspur Island (Charles?) and other State-managed islands (Laura?)

d. Miami-Dade County RER/DERM Environmental Complaints:

305-372-6955

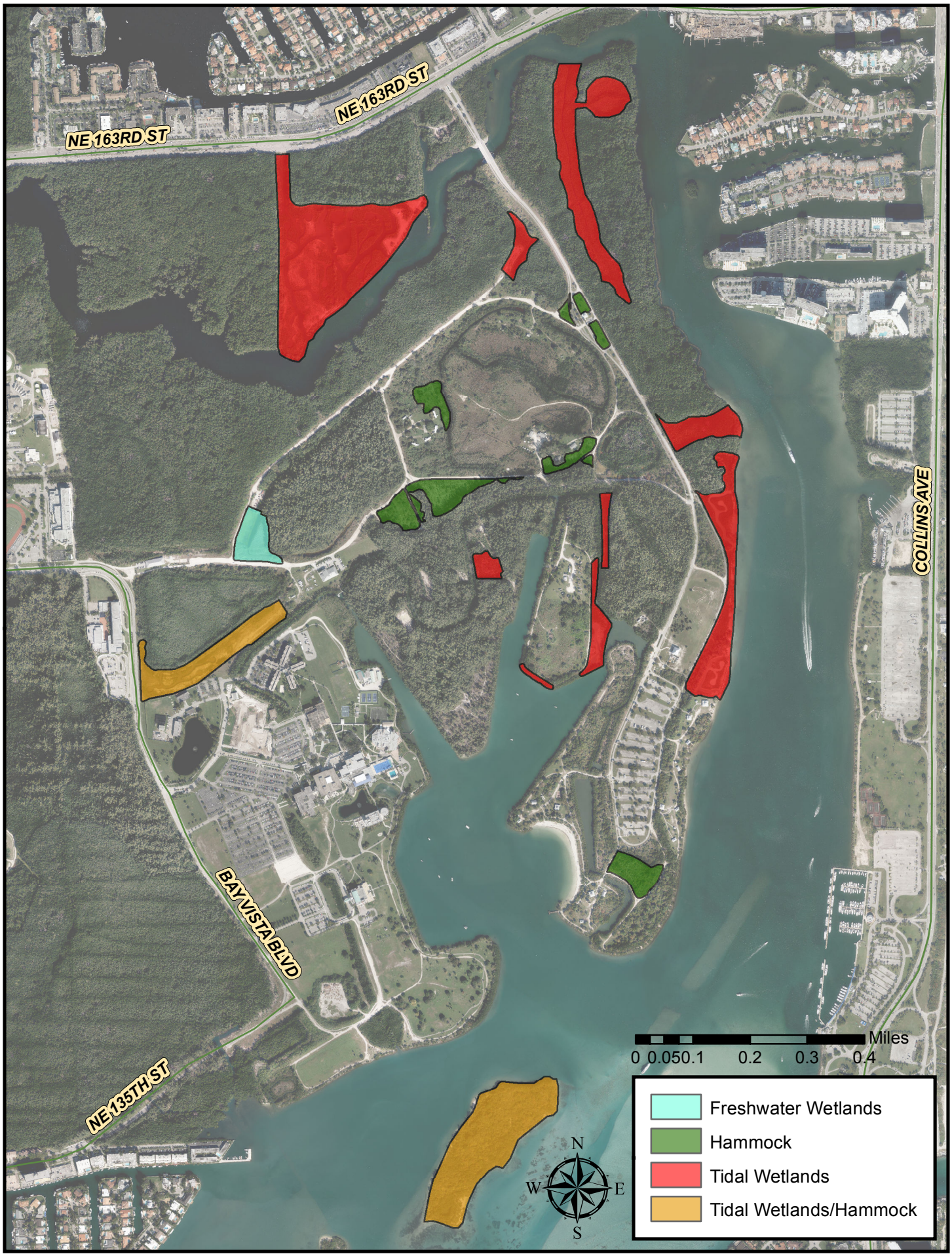
EnvtlComplaints@miamidade.gov

9. Next steps/Next meeting date

ATTACHMENT B

Oleta River State Park: DERM Restoration & Enhancement Areas

Oleta River State Park: DERM Restoration & Enhancement Areas



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March 28, 2022

Demi Degagne
Florida Department of Environmental Protection
Division of Recreation & Parks
Office of Park Planning
3900 Commonwealth Boulevard, MS 525
Tallahassee, Florida 32399-3000
Demi.Degagne@floridadep.gov

Re: Oleta River State Park Unit Management Plan Update, Florida Department of Environmental Protection—Division of Recreation and Parks, Miami-Dade County

Dear Ms. Degagne:

Florida Fish and Wildlife Conservation Commission (FWC) staff reviewed the Advisory Group Draft Unit Management Plan for Oleta River State Park (ORSP) and provides the following comments and recommendations as technical assistance in accordance with Chapter 379.

Project Description

The Florida Department of Environmental Protection's (FDEP) Division of Recreation and Parks has prepared an *Advisory Group Draft Unit Management Plan for Oleta River State Park* (*Plan*, March 2022) that addresses the future objectives relating to hydrological and natural community management, non-native and nuisance species management, imperiled species management, as well as recreation and facilities management. FWC staff supports long-term goals within the *Plan* to protect water quality and quantity; restore and maintain hydrology; restore and maintain onsite natural communities; maintain, improve, or restore imperiled species populations and habitats; remove exotic and invasive species; and provide public access and recreational opportunities.

Comments and Recommendations

Management Coordination

The *Plan* correctly states that FWC staff assists with the enforcement of state laws pertaining to wildlife, freshwater fish, and other aquatic life existing within the park. It should be noted in the *Plan* that FWC also aids in the identification, funding, and implementation of marine and estuarine habitat restoration projects.

Hydrological Management

FWC is a primary funding partner for the mangrove restoration project mentioned on page 16 of the *Plan* as Objective A under Hydrological Management. Funds for this project have been provided by FWC through grants from the National Oceanic and Atmospheric Association and the State Wildlife Grants program (US Fish and Wildlife Service funds administered by FWC) and FWC staff has been in coordination with FDEP throughout the project planning stages. This section indicates a need for engineering and design work; however, this work has been completed and FDEP is in the process of attaining appropriate state and federal permits.

Under general management measures for Marine Unconsolidated Substrate, reference is made to a seagrass restoration project that was conducted in the park for mitigation purposes. The suggested management action is monitoring of this area. It would be valuable for the *Plan* to also suggest that, if this restoration meets success criteria and proves successful, additional, similar restoration activities should be planned and implemented. Mentioning these actions in the *Plan* may assist in procuring funding for these types of actions in the future. Under General management measures for Marine Consolidated Substrate, FWC staff suggests adding that FDEP will assess this habitat and develop an inventory and map of species present. FWC staff are available to aid in implementation of a monitoring program to enable assessment of future changes.

Imperiled Species

Johnson's seagrass is referenced throughout the document as an imperiled species. The National Marine Fisheries Service is in the process of delisting this species and it will likely also have a name change before the next revision of the *Plan*. FWC staff suggests that FDEP remove all language referencing Johnson's seagrass as a listed species. General references to Johnson's seagrass should be revised to address Submerged Aquatic Vegetation (SAV) in general as all seagrasses are in decline in Biscayne Bay and all efforts to improve water quality and habitat for any species of SAV will provide an ecological benefit.

FWC staff appreciates the opportunity to provide comments on the *Draft Unit Management Plan for Oleta River State Park*. For specific technical questions regarding the content of this letter, please contact Jennifer Paredes at (850) 617-9408 or by email at Jennifer.Paredes@MyFWC.com. All other inquiries may be sent to ConservationPlanningServices@MyFWC.com.

Sincerely,

Jason Hight, Director
Office of Conservation Planning Services

jh/jp
Oleta River State Park Unit Management Plan Update_47174_03282022

cc: Yasmine Armaghani, FDEP, Yasmine.Armaghani@FloridaDEP.gov
FDEP, Office of Park Planning, FLStateParkPlanning@floridadep.gov

Addendum 3—References Cited

Addendum 4—Soils Description

(32) Terra Ceia muck, tidal - This deep, level, very poorly drained soil is found in saltwater swamps and marshes and is subject to tidal flooding. The soil consists of muck at least 80 inches deep. The upper eight inches are very dark brown while the lower portion is black. Under natural conditions, the Terra Ceia soil remains saturated. Its surface is inundated by tides twice daily. Permeability is rapid. The natural vegetation consists primarily of red and black mangroves. White mangroves grow in some areas as well. Dissimilar soils that are included with this soil type in small amounts include tidal Pennsuco, Perrine and Lauderhill soils.

(31) Pennsuco marl, tidal - This deep, nearly level, very poorly drained soil is found in tidal mangrove swamps near the coast in southeastern Florida and is subjected to tidal flooding. The soil consists of a surface layer approximately 51 inches deep of light gray marl. It has a silt loam texture. Soft porous limestone bedrock is found beneath this. Under natural conditions this soil remains saturated and the water table fluctuates with the tides. The soil is moderately saline or saline. Permeability is moderately slow. The natural vegetation is scattered and stunted red mangrove. Dissimilar soils that are included with this soil type in small amounts include Terra Ceia and Lauderhill soils. The latter differs in having layers of organic rather than marl material.

(26) Perrine marl, tidal - This moderately deep, nearly level, very poorly drained soil is in tidal mangrove swamps near the coast in southeastern Florida. Under natural conditions, the soil remains saturated and the water table fluctuates with tides. It is moderately saline or saline and has moderately slow permeability. Typically the surface layer consists of about 12 inches of dark brown marl that has a texture of silt loam. Below this to a depth of about 26 inches, the soil consists of dark gray marl that has a texture of silt loam. Limestone bedrock is found beneath this. The natural vegetation consists of scattered and stunted red mangroves. Dissimilar soils that occur with this soil type in small amounts include Terra Ceia and Lauderhill soils.

(9) Udorthents water complex - This soil type consists of unconsolidated or heterogeneous geologic material removed during the excavation of ditches, canals, lakes, ponds, and quarries. Shallow to deep piles are laid over limestone bedrock. This complex also includes open bodies of water. Slopes are 15 to 60 percent. Typically the Udorthents consist of mixed light gray and white limestone gravel and loamy carbonatic material, which extend to a depth of 80 inches or more. The water table is below the fill in the limestone bedrock. Permeability is moderate. Weeds, native grasses, and exotic vegetation have become established in some areas. Other areas support little or no vegetation.

(32) Urban Land – These soils generally have been altered by land grading and shaping or have been covered with about 18 inches of extremely stony, loamy fill material. Areas of these soils are so small that mapping them separately is impractical. The natural soils cannot be observed because more than 85 percent of the surface is covered by shoppingcenters, parking lots, streets, sidewalks, airports, large buildings, houses and other structures. The soils in open areas, mostly lawns, vacant lots, playgrounds, and parks are mainly Udorthents.

Addendum 5—Plant and Animal List

Common Name	Scientific Name	Primary Habitat Codes (for designated

Plants

Golden leather fern	Acrostichum aureum	MS
Pine fern	Anemia adiantifolia	
Boston fern	Nephrolepis exaltata *	
Boston fern	Nephrolepis multiflora *	
Whisk fern	Psilotum nudum	
Bracken fern	Pteridium aquilinum var. caudatum	
Ladder fern.	Pteris longifolia	
Brake fern	Pteris vittata *	
Shield fern	Thelypteris kunthii	
Norfolk Island pine	Araucaria excelsa *	
Southern red cedar	Juniperus virginiana	
Coontie	Zamia integrifolia	
Bushy bluestem	Andropogon glomeratus var. pumilus	
Broom-sedge	Andropogon virginicus	
Arrowfeather	Aristida purpurascens	
Common asparagus fern	Asparagus setaceus *	
Southern sandbur	Cenchrus echinatus	
Coastal sandbur	Cenchrus incertus	
Saw grass	Cladium jamaicensis	
Silver palm	Coccothrinax argentata	SA,RN
Coconut palm	Cocos nucifera *	
Day flower	Commelina erecta	
Corn plant	Cordyline terminalis *	
Bermuda grass	Cynodon dactylon *	
Umbrella sedge	Cyperus croceus	
Florida flatsedge	Cyperus floridanus	
False saw grass	Cyperus ligularis	
Umbrella sedge	Cyperus polystachyos	
Egyptian grass	Dactyloctenium aegyptium *	
Saltgrass	Distichlis spicata	
Dracaena	Dracaena fragrans *	
Goose grass	Eleusine indica *	
Feather lovegrass	Eragrostis amabilis *	
Gophertail lovegrass	Eragrostis ciliaris *	

* Non-

Common Name	*Scientific Name*	*Primary Habitat Codes (for designated*
Lovegrass	*Eragrostis elliottii*	
Wild coco	*Eulophia alta*	*7*
Finger grass	*Eustachys petraea*	
Hurricane grass	*Fimbristylis cymosa*	
Shoal grass	*Halodule wrightii*	
Spider lily	*Hymenocallis latifolia*	
Chinese fan palm	*Livistona chinensis **	
Muhly grass	*Muhlenbergia capillaris*	
Banana	*Musa x paradisiaca **	
Burma reed	*Neyraudia reynaudiana **	
Ground orchid	*Oeceoclades maculata **	
Fall panicum	*Panicum dichotomiflorum var. bartowense*	
Torpedo grass	*Panicum repens **	
Tufted paspalum	*Paspalum blodgettii*	
Blue paspalum	*Paspalum caespitosum*	
Bahia grass	*Paspalum notatum **	
Salt joint grass	*Paspalum setaceum*	
Salt joint grass	*Paspalum vaginatum*	
Seashore paspalum	*Paspalum vaginatum*	
White-tops	*Rhynchospora colorata*	
Blue stem	*Sabal minor*	
Cabbage palm	*Sabal palmetto*	
Bowstring hemp	*Sansevieria hyacinthoides **	
Wire bluestem	*Schizachyrium gracile*	
Bluestem	*Schizachyrium sanguineum*	
Saw palmetto	*Serenoa repens*	
Blue-eyed grass	*Sisyrinchium xerophyllum*	
Smooth cordgrass	*Spartina alterniflora*	
Cordgrass	*Spartina bakeri*	
Saltmeadow cordgrass	*Spartina patens*	
Prickly cordgrass	*Spartina spartinae*	
Coral dropseed grass	*Sporobolus domingensis*	
Dropseed	*Sporobolus indicus var. indicus **	
West Indian dropseed	*Sporobolus indicus var.pyramidalis **	
Coastal dropseed	*Sporobolus virginicus*	
St. Augustine grass	*Stenotaphrum secundatum **	
Manatee grass	*Syringodium filiforme*	
Florida thatch palm	*Thrinax radiata*	*SA,RN*
Oyster plant	*Tradescantia spathacea **	
Florida gamagrass	*Tripsacum floridana*	
Narrow-leaved cattail	*Typha angustifolia*	

** Non-*

Common Name	*Scientific Name*	*Primary Habitat Codes (for designated*
Southern cattail	*Typha domingensis*	
Sea oats	*Uniola paniculata*	
Washington palm	*Washingtonia robusta* *	
Spanish bayonet	*Yucca aloifolia* *	
Adam's needle	*Yucca filamentosa*	
Turf grass	*Zoysia matrella var. tenuifolia* *	
Earleaf acacia	*Acacia auriculiformis* *	
Cinnecord	*Acacia choriophylla*	*RN*
Alice-clover	*Alysicarpus vaginalis* *	
Slender amaranth	*Amaranthus viridis* *	
Common ragweed	*Ambrosia artemisiifolia*	
Black calabash	*Amphitecna latifolia* *	
Torchwood	*Amyris elemifera*	
Pond apple	*Annona glabra*	
Marlberry	*Ardisia escallonioides*	
Sea lavender	*Argusia gnaphalodes*	
Scarlet milkweed	*Asclepias curassavica* *	
Bushy aster	*Aster dumosus*	
Aster	*Aster subulatus*	
Black mangrove	*Avicennia germinans*	
False willow	*Baccharis angustifolia*	
Groundsel tree	*Baccharis glomeruliflora*	
Salt bush	*Baccharis halimifolia*	
Blue hyssop	*Bacopa caroliniana*	
Saltwort	*Batis maritima*	
Spanish needle	*Bidens alba var. radiata*	
Bishopwood	*Bischofia javanica* *	
Red spiderling	*Boerhavia diffusa*	
Sea oxeye	*Borrichia frutescens*	
Blueheart	*Buchnera americana*	
Gumbo limbo	*Bursera simaruba*	
Locustberry	*Byrsonima lucida*	
Gray nicker-bean	*Caesalpinia bonduc*	
Beautyberry	*Callicarpa americana*	
Mastwood	*Calophyllum antillanum* *	
Spicewood	*Calyptranthes pallens*	
Cinnamon bark	*Canella winterana*	*RN*
Jamaica caper	*Capparis cynophallophora*	

* *Non-*

Common Name	*Scientific Name*	*Primary Habitat Codes (for designated*
Goatweed	*Capraria biflora*	
Papaya	*Carica papaya **	
Australian pine	*Casuarina equisetifolia **	
Suckering Australian pine	*Casuarina glauca **	
Madagascar periwinkle	*Catharanthus roseus **	
Sugarberry	*Celtis laevigata*	
Coinwort	*Centella asiatica*	
Day jessamine	*Cestrum diurnum **	
Candle plant	*Chamaecrista alata **	
Sensitive pea	*Chamaecrista nictitans var. aspera*	
Blodgett's spurge	*Chamaesyce blodgettii*	
Hairy spurge	*Chamaesyce hirta*	
Graceful sandmat	*Chamaesyce hypericifolia*	
Hyssopleaf sandmat	*Chamaesyce hyssopifolia*	
Mendez's sandmat	*Chamaesyce mendezii*	
Lamb's quarters	*Chenopodium ambrosioides **	
Cocoplum	*Chrysobalanus icaco*	
Satinleaf	*Chrysophyllum oliviforme*	*RN*
Fiddlewood	*Citharexylum spinosum*	
Pitch apple	*Clusia rosea **	
Pigeon plum	*Coccoloba diversifolia*	
Seagrape	*Coccoloba uvifera*	
Latherleaf.	*Colubrina asiatica **	
Buttonwood	*Conocarpus erecta*	
Silver buttonwood	*Conocarpus erecta f. sericea*	
Dwarf horseweed	*Conyza canadensis var. pusilla*	
Cordia	*Cordia globosa*	
Geiger tree	*Cordia sebestena*	
Rhacoma	*Crossopetalum rhacoma*	
Rattle box	*Crotalaria pallida **	
Rattlebox	*Crotalaria pumila*	
Rattleweed.	*Crotalaria retusa **	
Carrotwood	*Cupaniopsis anacardiopsis **	
Dodder	*Cuscuta pentagona*	
Coin vine	*Dalbergia ecastophyllum*	
Royal poinciana	*Delonix regia **	
Beggarweed	*Desmodium incanum*	
Threeflower ticktrefoil	*Desmodium triflorum **	
Ponyfoot	*Dichondra carolinensis*	
Varnish leaf	*Dodonaea viscosa*	
Guiana plum	*Drypetes lateriflora*	

** Non-*

Common Name	*Scientific Name*	*Primary Habitat Codes (for designated*
Tasselflower	*Emilia fosbergii **	
Tasselflower	*Emilia sonchifolia **	
Black torch	*Erithalis fruticosa*	
Beach creeper	*Ernodea littoralis*	
Coral bean	*Erythrina herbacea*	
White stopper	*Eugenia axillaris*	
Redberry stopper	*Eugenia confusa*	*RN*
Spanish stopper	*Eugenia foetida*	
Dog fennel	*Eupatorium capillifolium*	
Dog fennel	*Eupatorium serotinum*	
Sanddune spurge	*Euphorbia trichotoma*	
Seaside gentian	*Eustoma exaltatum*	
Inkwood	*Exothea paniculata*	
Strangler fig	*Ficus aurea*	
Shortleaf fig	*Ficus citrifolia*	
Laurel fig	*Ficus microcarpa **	
Yellowtop	*Flaveria linearis*	
Stalkless yellowtop	*Flaveria trinervia*	
Segregata	*Foresteria segregata*	
Southern gaura	*Gaura angustifolia*	
Seven-year apple	*Genipa clusiifolia*	
Lignum-vitae	*Guaiacum sanctum*	*RN*
Blolly	*Guapira discolor*	
Crabwood	*Gymnanthes lucida*	
Firebush, scarletbush	*Hamelia patens*	
Beach sunflower	*Helianthus debilis var. debilis*	
Scorpion tail	*Heliotropium angiospermun*	
Seaside heliotrope	*Heliotropium curassavicum*	
Pineland heliotrope	*Heliotropium polyphyllum*	
Camphor weed	*Heterotheca subaxillaris*	
Mahoe	*Hibiscus tiliaceus **	
Dahoon holly	*Ilex cassine*	
Krug's holly	*Ilex krugiana*	
Wild indigo	*Indigofera spicata **	
Morning glory	*Ipomoea indica var. acuminata*	
Railroad vine	*Ipomoea pes-caprae ssp. brasiliensis*	
Moonvine	*Ipomoea violaceae*	
Beach elder	*Iva imbricata*	
Life plant	*Kalanchoe pinnata **	
Black ironwood	*Krugiodendron ferreum*	
White mangrove	*Languncularia racemosa*	
Lantana	*Lantana camara **	

** Non-*

Common Name	*Scientific Name*	*Primary Habitat Codes (for designated*
Wild lantana	*Lantana involucrata*	
Lead tree	*Leucaena leucocephala **	
Christmas berry	*Lycium carolinianum*	
Wild tamarind	*Lysiloma latisiliquum*	
Horseflesh	*Lysiloma sabicu **	
Red jumbie bean	*Macroptilium lathyroides **	
False mallow	*Malvastrum corchorifolium*	
Cajeput	*Melaleuca quinquenervia **	
Marsh elder	*Melanthera nivea*	
Creeping cucumber	*Melothria pendula*	
Poisonwood	*Metopium toxiferum*	
Climbing hempvine	*Mikania scandens*	
Wild balsam apple	*Momordica charantia **	
Red mulberry	*Morus rubra*	
Strawberry tree	*Muntingia calabura **	
Twinberry stopper	*Myrcianthes fragrans*	*RN*
Wax myrtle	*Myrica cerifera*	
Sensitive plant	*Neptunia pubescens var. pubescens*	
Lipstick plant	*Ochrosia elliptica **	
Lancewood	*Ocotea coriacea*	
Seaside evening primrose	*Oenothera humifusa*	
Lady's sorrel	*Oxalis corniculata*	
Virginia creeper	*Parthenocissus quinquefolia*	
Corky-stemmed passionflower	*Passiflora suberosa*	
Chicken weed	*Pectis prostrata*	
Wild allamanda	*Pentalinon luteum*	
Redbay	*Persea borbonia var. borbonia*	
Turkey Tangle Frogfruit.	*Phyla nodiflora*	
Gale of wind	*Phyllanthus amarus **	
Ground cherry	*Physalis angulata*	
Ground cherries	*Physalis walteri*	
Pokeweed	*Phytolacca americana*	
Bitterbush	*Picramnia pentandra*	
Artillery plant	*Pilea microphylla **	
Jamaica dogwood	*Piscidia piscipula*	
Blackbead	*Pithecellobium keyense*	
Cat's claw	*Pithecellobium unguis-cati*	
Marsh fleabane	*Pluchea odorata*	
Rosy camphorweed	*Pluchea rosea*	
Wild poinsettia	*Poinsettia cyathophora*	
Wild poinsettia	*Poinsettia heterophylla*	

Common Name	*Scientific Name*	*Primary Habitat Codes (for designated*
Milkwort	*Polygala grandiflora*	
Rustweed	*Polypremum procumbens*	
Pongam	*Pongamia pinnata **	
Purslane	*Portulaca oleracea **	
West Indian cherry	*Prunus myrtifolia*	
Long-stalked stopper	*Psidium longipes*	
Wild coffee	*Psychotria nervosa*	
Wild coffee	*Psychotria sulzneri*	
Laurel oak	*Quercus laurifolia*	
Live oak	*Quercus virginiana*	
White indigo-berry	*Randia aculeata*	
Myrsine	*Rapanea punctata*	
Red mangrove	*Rhizophora mangle*	
Largeflower Mexican clover	*Richardia grandiflora **	
Castor bean	*Ricinus communis **	
Soapberry	*Sapindus saponaria*	
Milkweed vine	*Sarcostemma clausum **	
Maidenbush	*Savia bahamensis*	
Inkberry	*Scaevola plumieri*	*RN*
Beach naupaka	*Scaevola sericea **	
Florida boxwood	*Schaefferia frutescens*	
Umbrella tree	*Schefflera actinophylla **	
Brazilian pepper	*Schinus terebinthifolius **	
Sweet broom	*Scoparia dulcis*	
Candle plant	*Senna alata **	
Sea purslane	*Sesuvium portulacastrum*	
Broomweed	*Sida acuta*	
Fringed fanpetals	*Sida ciliaris*	
Indian hemp	*Sida rhombifolia*	
Mastic	*Sideroxylon foetidissimum*	
Willow bustic	*Sideroxylon salicifolium*	
Paradise tree	*Simarouba glauca*	
Seaside goldenrod	*Solidago sempervirens*	
Necklace-pod	*Sophora tomentosa*	
Large leaf buttonweed	*Spermacoce assurgens*	
Buttonweed	*Spermacoce verticillata **	
West Indian pinkroot	*Spigelia anthelmia*	
Blue porterweed	*Stachytarpheta jamaicensis*	
Pencil flower	*Stylosanthes hamata*	
Bay-cedar	*Suriana maritima*	
West Indian mahogany	*Swietenia mahagoni*	*RN*

** Non-*

Common Name	*Scientific Name*	*Primary Habitat Codes (for designated*
Rose apple	*Syzygium jambos **	
Tropical almond	*Terminalia catappa **	
Seaside mahoe	*Thespesia populnea **	
Poison ivy	*Toxicodendron radicans*	
Florida trema	*Trema micrantha*	
Puncture weed	*Tribulus cistoides **	
Yellow alder	*Turnera ulmifolia **	
Ironweed	*Vernonia cinerea **	
Cow-pea.	*Vigna luteola*	
Waltheria	*Waltheria indica*	
Wedelia	*Wedelia trilobata **	
Biscayne prickly ash	*Zanthoxylum coriaceum*	*RN*
Wild lime	*Zanthoxylum fagara*	

MARINE PLANTS SEAGRASSES

Shoal grass	*Halodule wrightiii*	
Paddle grass	*Halophila decipiens*	
Johnson's seagrass	*Halophila johnsonii*	*MUS*
Manatee grass	*Syringodium filiform*	
Turtle grass	*Thalassia tetidinum*	

CHLOROPHYTA

Mermaid's wine glass	*Acetabularia sp*	
	Avrainvillea sp	
	Caulerpa lanuuginosa	
	Caulerpa mexicana	
	Caulerpa prolifera	
	Caulerpa sertularoides	
	Caulerpa verticillata	
	Halimeda discoidea	
	Halimeda goreaui	
Mermaid's shaving brush	*Penicillus capitatus*	
	Penicillus dumetosus	

PHAEOPHYTA

	Dictyota cervicornus
	Dictyota sp

* *Non-*

Primary Habitat Codes
Common Name..... Scientific Name..... (for imperiled species)

.....Padina sp

RHODOPHYTA

.....Acanthophora spicifera
.....Gracilaria sp
.....Lauurencia intricata
.....Laurencia sp

Common Name	*Scientific Name*

INVERTEBRATES

Great land crab..... Cardisoma guanhumi.....
Fiddler crab..... Uca sp.....
Rock-boring urchin .....Echinometra lucunter.....
Bleeding tooth ..... Nerita peloronta.....
Tessellated nerite.....Nerita tessellata .....
Boring isopod .....Sphaeroma terebrans.....

INSECTS

Diaprepes root weevil.....Diaprepes abbreviates.....*

Gulf fritillary..... Agraulis vanilla.....
White peacock..... Anartia iatrophe.....
Monk skipper..... Asbolis capucinus.....
Black Witch Moth..... Ascalapha odorata.....
Sachem..... Atalopedes campestris.....
Brazilian skipper..... Calpodes ethlius.....
Three-spotted skipper..... Cymaenes tripuncta.....
Monarch..... Danaus plexippus.....
Julia heliconian..... Dryas iulia.....
Barred yellow..... Eurema daira.....
Sleepy orange butterfly..... Eurema nicippe.....
Zebra heliconian.....Heliconius charithonia.....
Ceraunus blue butterfly..... Hemiargus ceraunus.....
Florida tussock moth.....Halysidota cinctipes.....
Fiery skipper..... Hylephila phyleus.....
Common buckeye..... Junonia coenia.....
Mangrove buckeye..... Junonia evarete.....
Cassius blue butterfly..... Leptotes cassius.....
Ruddy daggerwing..... Marpesia petreus.....
White-tipped black moth..... Melanchroia chephise.....
Ocola skipper..... Panoquina ocola.....
Giant swallowtail..... Papilio cresphontex.....
Mangrove skipper..... Phocides pigmalia.....
Large orange sulphur..... Phoebis agarithe.....
Orange-barred sulphur..... Phoebis philea.....
Cloudless sulphur..... Phoebis sennae.....
Phaon crescent..... Phyciodes phaon.....
Baracoa skipper..... Polites Baracoa.....
Hammock skipper..... Polygonus leo.....
Tropical checkered skipper..... Pyrgus oileus.....
Mallow scrub-hairstreak..... Strymon columella.....
Long-tailed skipper..... Urbanus proteus.....
Bella moth..... Utethesia bella.....

* Non-

Common Name	*Scientific Name*

ARACHNIDS

Spiny orb-weaver..... Gasteracantha cancriformis.....
Golden silk spider..... Nephila clavipes.....

FISH
Sergeant major .....Abudefduf saxatilis.....
Scrawled cowfish.....Acanthostracion quadricornis.....
Spotted eagle ray..... .....Aetobatus narinari
Porkfish .....Anisotremus virginicus .....
Sheepshead.....Archosargus probatocephalus .....
Sea bream .....Archosargus rhomboidalis.....
Crevalle jack.....Caranx hippos.....
Common snook .....Centropomus undecimalis .....
Walking catfish.....Clarias batrachus.....
Sheepshead minnow.....Cyprinodon variegates.....
Southern stingray.....Dasyatis americana.....
Striped mojarra.....Diapterus plumieri.....
Spottail pinfish.....Diplodus holbrooki.....
Shark remora.....Echeneis naucrates.....
Goldspotted killifish.....Floridichthys carpio.....
Longnose killifish ..... Fundulus similis.....
Mosquitofish..... Gambusia holbrooki.....
Common goby.....Gobiidae sp.....
Yellowfin mojarra..... Gerres cinereus .....
Caesar grunt.....Haemulon carbonarium.....
French grunt.....Haemulon flavolineatum.....
Sailor's choice.....Haemulon parra.....
Blue-striped grunt.....Haemulon Sciurus.....
Hairy blenny.....Labrisomas nuchipinnis.....
Pinfish ..... Lagodon rhomboides.....
Crested goby.....Lophogobius cyprinoides.....
Schoolmaster.....Lutjanus apodus.....
Gray snapper..... Lutjanus griseus .....
Dog snapper.....Lutjanus jocu.....
Tarpon ..... Megalops atlantica .....
Silversides .....Menidia sp.....
Striped mullet..... Mugil cephalus .....
Redlip blenny .....Ophioblennius atlanticus .....
Jawfish sp .....Opistognathus sp .....
Bandtail searobin.....Prionotus ophryas.....
Spotted goatfish.....Pseudupeneus maculatus.....
Queen parrotfish.....Scarus vetula.....
Spanish mackerel .....Scomberomorus maculates.....
Redband parrotfish.....Sparisoma aurofrenatum.....
Spotlight parrotfish.....Sparisoma viride.....

Common Name	*Scientific Name*
Southern puffer	*Spheroides nephulus*
Checkered puffer	*Sphoeroides testudineus*
Great barracuda	*Sphyraena barracuda*
Cocoa damselfish	*Stegates variabilis*
Atlantic needlefish	*Strongylura marina*
Redfin needlefish	*Strongylura notata*
Pipefish	*Syngnathus scovelli*
Yellow stingray	*Urolophus jamaicensis*

AMPHIBIANS

Green treefrog	*Hyla cineria*
Squirrel treefrog	*Hyla squirella*
Southern leopard frog	*Lithobates sphenocephalus*
Cuban treefrog	*Osteopilus septentrionalis **
Cane toad	*Rhinella marina**

REPTILES

Florida cottonmouth	*Agkistrodon piscivorus*
Green anole	*Anolis carolinensis*
Cuban knight anole	*Anolis equestris**
Brown anole	*Anolis sagrei **
Brown basilisk	*Basiliscus vittatus**
Southern black racer	*Coluber constrictor*
American crocodile	*Crocodylus acutus*
Southern ringneck snake	*Diadophis punctatus*
Red rat, Corn snake	*Elaphe guttata*
Great green iguana	*Iguana iguana **
Curly-tailed lizard	*Leiocephalus carinatus**
Mangrove salt marsh snake	*Nerodia fasciata compressicauda*
Florida cooter	*Pseudemys floridana*
Red-eared turtle	*Pseudemys scripta elegans **
Burmese python	*Python molurus bivittatus**
Florida box turtle	*Terrapene carolina bauri*
Florida softshell	*Trionyx ferox.*

BIRDS

Sharp-shinned hawk	*Accipiter straitus velox*
Spotted sandpiper	*Actitis macularia.*
Roseate spoonbill	*Ajaia ajaja*
Egyptian goose	*Alopochen aegyptiaca.**
Seaside sparrow	*Ammodramus maritimus*
Anhinga	*Anhinga anhinga*
Great blue heron	*Ardea herodias.*
American bittern	*Botaurus lentiginosus*

* *Non-*

Common Name	*Scientific Name*
Cattle egret	*Bubulcus ibis*
Short-tailed hawk	*Buteo brachyurus*
Red-tailed hawk	*Buteo jamaicensis*
Red-shouldered hawk	*Buteo lineatus*
Broad-winged hawk	*Buteo platypterus*
Green-backed heron	*Butorides striatus*
Green heron	*Butorides virescens*
Muscovy duck	*Cairina moschata*
Wilson's warbler	*Candelina pusilla*
Chuck-will's widow	*Caprimulgus carolinensis*
Northern cardinal	*Cardinalis cardinalis*
American goldfinch	*Carduelis tristis*
Turkey vulture	*Cathartes aura*
Belted kingfisher	*Ceryle alcyon*
Killdeer	*Charadrius vociferus*
Common nighthawk	*Chordeiles minor*
Northern harrier	*Circus cyaneus*
Yellow-billed cuckoo	*Coccyzus americanus*
Mangrove cuckoo	*Coccyzus minor mynardi*
Rock pigeon	*Columba livia*
Ground dove *	*Columbina passerina*
Eastern wood peewee	*Comtopus virens*
Black vulture	*Coragyps atratus*
Fish crow	*Corvus ossifragus*
Sanderling	*Crocethia alba*
Blue jay	*Cyanocitta cristata*
Black-throated blue warbler	*Dendroica caerulescens*
Yellow-throated warbler	*Dendroica dominica*
Bobolink	*Dolichonyx oryzivorus*
Downy woodpecker	*Dryobates pubescens*
Gray catbird	*.Dumetella carolinensis*
Little blue heron	*Egretta caerulea*
Reddish egret	*Egretta rufescens*
Snowy egret	*Egretta thula*
Tricolored heron	*Egretta tricolor*
American swallow-tailed kite	*Elanoides forficatus*
Least flycatcher	*Empidonax minimus*
White ibis	*Eudocimus albus*
Merlin	*Falco columbarius*
Peregrine falcon	*Falco peregrinus*
American kestrel	*Falco sparverius*
Magnificent frigatebird	*Fregata magnificens rothschildi*
Common gallinule	*Gallinula galeata*
Common loon	*Gavia immer*
Common yellowthroat	*Geothlypis trichas*
Bald eagle	*Haliaeetus leucocephalus*
Worm-eating warbler	*Helmintheros vermivorum*

* *Non-*

Common Name	Scientific Name
Black-necked stilt	Himantopus mexicanus
Baltimore oriole	Icterus galbula
Loggerhead shrike	Lanius ludovicianus
Herring gull	Larus argentatus
Laughing gull	Larus atricilla
Ring-billed gull	Larus delawarensis
Tennessee warbler	Leiothlypis peregrina
Red-bellied woodpecker	Melanerpes carolinus
Red-breasted merganser	Mergus serrator
Mockingbird	Mimus polyglottos
Black and white warbler	Mniotilta varia
Wood Stork	Mycteria americana
Yellow-crowned night heron	Nyctanassa violacea
Black-crowned night hernon	Nycticorax nycticorax
Osprey	Pandion haliaetus.
Northern waterthrush	Parkesia noveboracensis
Painted bunting	Passerina ciris
Indigo bunting	Passerina cyanea
White-crowned pigeon	Patagioenas leucocephala
Brown pelican	Pelicanus occidentalis
American white pelican	Pelecanus erythrorhynchos
Double-crested cormorant	Phalacrocorax auritus
Scarlet tanager	Piranga olivacea
Summer tanager	Piranga rubra
Pied-billed grebe	Podilymbus podiceps
Blue-gray gnatcatcher	Polioptila caerulea
Purple martin	Progne subis
Boat-tailed grackle	Quiscalus major
Common grackle	Quiscalus quiscula
Least tern	Sterna albifrons
Common tern	Sterna hirundo hirundo
Barred owl	Strix varia
Royal tern	Thalasseua maximus
Black-whiskered vireo	Vireo altiloquus
Red-eyed vireo	Vireo olivaceus
Blue-headed vireo	Vireo solitarius
Mourning dove	Zenaida macroura
Eastern phoebe	Sayornis phoebe
Ovenbird	Seiurus aurocapilla
Northern parula	Setophaga Americana
Black-throated blue warbler	Setophaga caerulescens
Yellow-rumped warbler	Setophaga coronate
Prairie warbler	Setophaga discolor
Palm warbler	Setophaga palmarum
Chestnut sided warbler	Setophaga pennsylvanica
American redstart	Setophaga ruticilla

* Non-

Common Name	Scientific Name
Cape May warbler	*Setophaga tigrine*
Yellow-bellied sapsucker	*Sphyrapicus varius*
Eurasian dove	*Stepopelia decaocto*
European starling	*Sturnus vulgaris*
Brown thrasher	*Toxostoma rufum*
House wren	*Troglodytes aedon*
Eastern kingbird	*Tyrannus tyrannus*
White-eyed vireo	*Vireo griseus*

MAMMALS

Coyote	*Canis latrans*
Oppossum	*.Didelphis marsupialis*
River otter	*Lutra canadensis*
Florida bobcat	*Lynx rufus*
Raccoon	*Procyon lotor*
Eastern gray squirrel	*Sciurus carolinensis*
Spotted skunk	*Spilogale putorius*
Marsh rabbit	*Sylvilagus palustris*
West Indian manatee	*Trichechus manatus latirostris*

** Non-*

Addendum 6—Imperiled Species Ranking Definitions

The Nature Conservancy and the Natural Heritage Program Network (of which FNAI is a part) define an element as any exemplary or rare component of the natural environment, such as a species, natural community, bird rookery, spring, sinkhole, cave or other ecological feature. An element occurrence (EO) is a single extant habitat that sustains or otherwise contributes to the survival of a population or a distinct, self-sustaining example of a particular element.

Using a ranking system developed by The Nature Conservancy and the Natural Heritage Program Network, the Florida Natural Areas Inventory assigns two ranks to each element. The global rank is based on an element's worldwide status; the state rank is based on the status of the element in Florida. Element ranks are based on many factors, the most important ones being estimated number of Element occurrences, estimated abundance (number of individuals for species; area for natural communities), range, estimated adequately protected EOs, relative threat of destruction, and ecological fragility.

Federal and State status information is from the U.S. Fish and Wildlife Service; and the Florida Fish and Wildlife Conservation Commission (animals), and the Florida Department of Agriculture and Consumer Services (plants), respectively.

FNAI GLOBAL RANK DEFINITIONS

G1 ..... Critically imperiled globally because of extreme rarity (5 or fewer occurrences or less than 1000 individuals) or because of extreme vulnerability to extinction due to some natural or fabricated factor.

G2 ..... Imperiled globally because of rarity (6 to 20 occurrences or less than 3000 individuals) or because of vulnerability to extinction due to some natural or man-made factor.

G3 ..... Either very rare or local throughout its range (21-100 occurrences or less than 10,000 individuals) or found locally in a restricted range or vulnerable to extinction of other factors.

G4 ..... apparently secure globally (may be rare in parts of range)

G5 ..... demonstrably secure globally

GH ..... of historical occurrence throughout its range may be rediscovered (e.g., ivory-billed woodpecker)

GX ..... believed to be extinct throughout range

GXC ..... extirpated from the wild but still known from captivity or cultivation

G#? ..... Tentative rank (e.g.,G2?)

G#G# ..... range of rank; insufficient data to assign specific global rank (e.g., G2G3)

G#T# ..... rank of a taxonomic subgroup such as a subspecies or variety; the G portion of the rank refers to the entire species and the T portion refers to the specific subgroup; numbers have same definition as above (e.g., G3T1)

G#Q ..... rank of questionable species - ranked as species but questionable whether it is species or subspecies; numbers have same definition as above (e.g., G2Q)

G#T#Q.....same as above, but validity as subspecies or variety is questioned.
GU.....due to lack of information, no rank or range can be assigned (e.g., GUT2).
G? .....Not yet ranked (temporary)
S1 .....Critically imperiled in Florida because of extreme rarity (5 or fewer occurrences or less than 1000 individuals) or because of extreme vulnerability to extinction due to some natural or man-made factor.
S2 .....Imperiled in Florida because of rarity (6 to 20 occurrences or less than 3000 individuals) or because of vulnerability to extinction due to some natural or man-made factor.
S3 .....Either very rare or local throughout its range (21-100 occurrences or less than 10,000 individuals) or found locally in a restricted range or vulnerable to extinction of other factors.
S4 .....apparently secure in Florida (may be rare in parts of range)
S5 .....demonstrably secure in Florida
SH.....of historical occurrence throughout its range, may be rediscovered (e.g., ivory-billed woodpecker)
SX .....believed to be extinct throughout range
SA .....accidental in Florida, i.e., not part of the established biota
SE .....an exotic species established in Florida may be native elsewhere in North America
SN.....regularly occurring but widely and unreliably distributed; sites for conservation hard to determine
SU.....due to lack of information, no rank or range can be assigned (e.g., SUT2).
S?.....Not yet ranked (temporary)
N .....Not currently listed, nor currently being considered for listing, by state or federal agencies.

LEGAL STATUS

FEDERAL

(Listed by the U. S. Fish and Wildlife Service - USFWS)

LE.....Listed as Endangered Species in the List of Endangered and Threatened Wildlife and Plants under the provisions of the Endangered Species Act. Defined as any species that is in danger of extinction throughout all or a significant portion of its range.

PE.....Proposed for addition to the List of Endangered and Threatened Wildlife and Plants as Endangered Species.

LT.....Listed as Threatened Species. Defined as any species that is likely to become an endangered species within the near future throughout all or a significant portion of its range.

PT.....Proposed for listing as Threatened Species.

C .....Candidate Species for addition to the list of Endangered and Threatened Wildlife and Plants. Defined as those species for which the USFWS currently has on file sufficient information on biological vulnerability and threats to support proposing to list the species as endangered or threatened.

E(S/A).....Endangered due to similarity of appearance.

T(S/A).....Threatened due to similarity of appearance.

EXPE, XE.....Experimental essential population. A species listed as experimental and essential.

EXPN, XN....Experimental non-essential population. A species listed as experimental and non-essential. Experimental, nonessential populations of endangered species are treated as threatened species on public land, for consultation purposes.

STATE

ANIMALS ..(Listed by the Florida Fish and Wildlife Conservation Commission - FWC)

FE.....Federally-designated Endangered

FT.....Federally-designated Threatened

FXN .....Federally-designated Threatened Nonessential Experimental Population

FT(S/A) .....Federally-designated Threatened species due to similarity of appearance

ST .....Listed as Threatened Species by the FWC. Defined as a species, subspecies, or isolated population, which is acutely vulnerable to environmental alteration, declining in number at a rapid rate, or whose range or habitat, is decreasing in area at a rapid rate and therefore is destined or very likely to become an endangered species within the near future.

SSC .....Listed as Species of Special Concern by the FWC. Defined as a population which warrants special protection, recognition or consideration because it has an inherent significant vulnerability to habitat modification, environmental alteration, human disturbance or substantial human exploitation that, in the near future, may result in its becoming a threatened species.

PLANTS ....(Listed by the Florida Department of Agriculture and Consumer Services - FDACS)

LE.....Listed as Endangered Plants in the Preservation of Native Flora of Florida Act. Defined as species of plants native to the state that are in imminent danger of extinction within the state, the survival of which is unlikely if the causes of a decline in the number of plants continue, and includes all species determined to be endangered or threatened pursuant to the Federal Endangered Species Act of 1973,as amended.

LT.....Listed as Threatened Plants in the Preservation of Native Flora of Florida Act. Defined as species native to the state that are in rapid decline in the number of plants within the state, but which have not so decreased in such number as to cause them to be endangered.

Addendum 7—Cultural Information

These procedures apply to state agencies, local governments, and non-profits that manage state-owned properties.

A. General Discussion

Historic resources are both archaeological sites and historic structures. Per Chapter 267, Florida Statutes, '*Historic property' or 'historic resource' means any prehistoric district, site, building, object, or other real or personal property of historical, architectural, or archaeological value, and folklife resources. These properties or resources may include, but are not limited to, monuments, memorials, Indian habitations, ceremonial sites, abandoned settlements, sunken or abandoned ships, engineering works, treasure trove, artifacts, or other objects with intrinsic historical or archaeological value, or any part thereof, relating to the history, government, and culture of the state."*

B. Agency Responsibilities

Per State Policy relative to historic properties, state agencies of the executive branch must allow the Division of Historical Resources (Division) the opportunity to comment on any undertakings, whether these undertakings directly involve the state agency, i.e., land management responsibilities, or the state agency has indirect jurisdiction, i.e. permitting authority, grants, etc. No state funds should be expended on the undertaking until the Division has the opportunity to review and comment on the project, permit, grant, etc.

State agencies shall preserve the historic resources which are owned or controlled by the agency.

Regarding proposed demolition or substantial alterations of historic properties, consultation with the Division must occur, and alternatives to demolition must be considered.

State agencies must consult with Division to establish a program to location, inventory and evaluate all historic properties under ownership or controlled by the agency.

C. Statutory Authority

Statutory Authority and more in-depth information can be found at: https://www.dos.myflorida.com/historical/preservation/compliance-and-review/regulations-guidelines/

D. Management Implementation

Even though the Division sits on the Acquisition and Restoration Council and approves land management plans, these plans are conceptual. Specific information

regarding individual projects must be submitted to the Division for review and recommendations.

Managers of state lands must coordinate any land clearing or ground disturbing activities with the Division to allow for review and comment on the proposed project. Recommendations may include but are not limited to approval of the project as submitted, cultural resource assessment survey by a qualified professional archaeologist, modifications to the proposed project to avoid or mitigate potential adverse effects.

Projects such as additions, exterior alteration, or related new construction regarding historic structures must also be submitted to the Division of Historical Resources for review and comment by the Division's architects. Projects involving structures fifty years of age or older, must be submitted to this agency for a significance determination. In rare cases, structures under fifty years of age may be deemed historically significant. These must be evaluated on a case by case basis.

Adverse impacts to significant sites, either archaeological sites or historic buildings, must be avoided. Furthermore, managers of state property should make preparations for locating and evaluating historic resources, both archaeological sites and historic structures.

E. Minimum Review Documentation Requirements

In order to have a proposed project reviewed by the Division, certain information must be submitted for comments and recommendations. The minimum review documentation requirements can be found at: https://www.dos.myflorida.com/media/31392/minimum_review_documentation_requirements.pdf.

* * *

Questions relating to the treatment of archaeological and historic resources on state lands should be directed to:

Division of Historical Resources
Bureau of Historic Preservation
Compliance and Review Section
R. A. Gray Building
500 South Bronough Street
Tallahassee, FL 32399-0250
Phone:(850) 245-6333
Email: CompliancePermits@DOS.MyFlorida.com

The criteria to be used for evaluating eligibility for listing in the National Register of Historic Places are as follows:

1) Districts, sites, buildings, structures, and objects may be considered to have significance in American history, architecture, archaeology, engineering, and/or culture if they possess integrity of location, design, setting, materials, workmanship, feeling, and association, and:

- **a)** are associated with events that have made a significant contribution to the broad patterns of our history; and/or
- **b)** are associated with the lives of persons significant in our past; and/or
- **c)** embody the distinctive characteristics of type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; and/or
- **d)** have yielded, or may be likely to yield, information important in prehistory or history.

2) Ordinarily cemeteries, birthplaces, or graves of historical figures; properties owned by religious institutions or used for religious purposes; structures that have been moved from their original locations; reconstructed historic buildings; properties primarily commemorative in nature; and properties that have achieved significance within the past 50 years shall not be considered eligible for the *National Register*. However, such properties will qualify if they are integral parts of districts that do meet the criteria or if they fall within the following categories:

- **a)** a religious property deriving its primary significance from architectural or artistic distinction or historical importance; or
- **b)** a building or structure removed from its original location but which is significant primarily for architectural value, or which is the surviving structure most importantly associated with a historic person or event; or
- **c)** a birthplace or grave of an historical figure of outstanding importance if there is no appropriate site or building directly associated with his productive life; or
- **d)** a cemetery which derives its primary significance from graves of persons of transcendent importance, from age, distinctive design features, or association with historic events; ora reconstructed building, when it is accurately executed in a suitable environment and presented in a dignified manner as part of a restoration master plan, and no other building or structure with the same association has survived; or a property primarily commemorative in intent, if design, age, tradition, or symbolic value has invested it with its own exceptional significance; or
- **e)** a property achieving significance within the past 50 years, if it is of exceptional importance.

Restoration is defined as the act or process of accurately depicting the form, features, and character of a property as it appeared at a particular period of time by means of the removal of features from other periods in its history and reconstruction of missing features from the restoration period. The limited and sensitive upgrading of mechanical, electrical and plumbing systems and other code-required work to make properties functional is appropriate within a restoration project.

Rehabilitation is defined as the act or process of making possible a compatible use for a property through repair, alterations and additions while preserving those portions or features that convey its historical, cultural or architectural values.

Stabilization is defined as the act or process of applying measures designed to reestablish a weather resistant enclosure and the structural stability of an unsafe or deteriorated property while maintaining the essential form as it exists at present.

Preservation is defined as the act or process of applying measures necessary to sustain the existing form, integrity and materials of an historic property. Work, including preliminary measures to protect and stabilize the property, generally focuses upon the ongoing maintenance and repair of historic materials and features rather than extensive replacement and new construction. New exterior additions are not within the scope of this treatment; however, the limited and sensitive upgrading of mechanical, electrical and plumbing systems and other code-required work to make properties functional is appropriate within a preservation project.

Addendum 8 —Land Management Review

2013 Land Management Review Team Report for Oleta River State Park

Table of Contents

1. Introduction

Section 259.036, F.S. requires a periodic on-site review of conservation and recreation lands titled in the name of the Board of Trustees to determine (1) whether the lands are being managed for the purposes for which they were acquired and (2) whether they are being managed in accordance with their land management plan adopted pursuant to s. 259.032, F.S. In case where the managed areas exceed 1,000 acres in size, such a review must be scheduled at least every five years. In conducting this review, a statutorily constructed review team "shall evaluate the extent to which the existing management plan provides sufficient protection to threatened or endangered species, unique or important natural or physical features, geological or hydrological functions or archaeological features. The review shall also evaluate the extent to which the land is being managed for the purposes for which it was acquired and the degree to which actual management practices, including public access, are in compliance with the adopted management plan."

The land management review teams are coordinated by the Division of State Lands and consist of representatives from the Division of Recreation and Parks (DEP), the Florida Forest Service (DACS), the Fish and Wildlife Conservation Commission, the local government in which the property is located, the DEP District in which the parcel is located, the local soil and water conservation district, a conservation organization member, and a local private land manager.

Each Land Management Review Report is divided into three sections. Section 1 provides the details of the property being reviewed as well as the overall results of the report. Section 2 provides details of the Field Review, in which the Review Team inspects the results of management actions on the site. Section 3 provides details of the Land Management Plan Review, in which the team determines the extent to which the Management Plan provides for and documents adequate natural and recreational resource protection.

Finally, each report may also contain an Appendix that lists individual team member comments. This is a compilation of feedback, concerns or other thoughts raised by individual team members, but not necessarily indicative of the final consensus reached by the Land Management Review Team.

1.1. Property Reviewed in this Report

Name of Site: Oleta River State Park
Managed by: DRP
Acres: 874.78 **County(ies):** Miami-Dade County
Purpose(s) for Acquisition:
Acquisition Program(s): Inholdings and Additions **Original Acquisition Date:** 3/13/80
Area Reviewed: Entire Property **Last Management Plan Approval Date:** 12/12/08
Review Date: 10/22/13

Agency Manager and Key Staff Present:

- Barry Stevens, Park Manager
- Jennifer Roberts, Park Service Specialist
- Adam Belden, Assistant Park Manager

Review Team Members Present (voting)

- DRP: Charlie Jabaly
- FWC: Daniel Castillo
- FFS: Bill Korn
- DEP: Melissa Gil
- SWCD:
- Local gov't: Alicie Warren
- Conservation organization: Beryn Harty
- Private land manager:

Other Non-Team Members Present (attending)

- Keith Singleton, DEP/DSL
- Rick Harty, FNPS

1.2 Property Map

1.3. Overview of Land Management Review Results

Is the property managed in accordance with the purposes for which it was acquired?

Yes = 6, No = 0

Are the management practices, including public access, in compliance with the management plan?

Yes = 6, No = 0

Table 1 shows the average scores received for each applicable category of review. *Field Review* scores refer to the adequacy of management actions in the field, while *Management Plan Review* scores refer to adequacy of discussion of these topics in the management plan. Scores range from 1 to 5 with 5 signifying excellence. For a more detailed key to the scores, please see *Appendix A*.

Table 1: Results at a glance.

Major Land Management Categories	Field Review	Management Plan Review
Natural Communities / Forest Management	4.61	3.51
Prescribed Fire / Habitat Restoration	3.58	3.67
Hydrology	4.08	3.58
Imperiled Species	4.50	1.97
Exotic / Invasive Species	3.59	2.96
Cultural Resources	4.00	3.20
Public Access / Education / Law Enforcement	3.96	3.30
Infrastructure / Equipment / Staffing	2.86	N/A

Color Code (See Appendix A for detail)

1.3.1 Consensus Commendations for the Managing Agency

The following commendations resulted from discussion and vote of the review team members:

1. The team commends the DRP and park staff on their past efforts and cooperation with Miami-Dade County's Department of Environmental Resource Management in treating and removing areas of invasive plant species, recontouring and establishing native vegetation to create new maritime hammock and mangrove swamp habitat. (6+, 0-)

2. The team commends the DRP and park staff on their outstanding efforts to manage a huge public visitation program and to protect fragile resources with an extremely limited park staff and funding source. (6+, 0-)

3. The team commends the DRP and park staff on their efforts to partner with other agencies to help monitor and restore natural communities and listed species. (6+, 0-)

4. The team commends the DRP and park staff on their willingness to work with the concerns and demands of major users of biking trails, acknowledging the need for patience and education. (6+, 0-)

5. The team commends the DRP and park staff on the excellent work to promote and coordinate a diverse program of special events that have increased visitation, revenues, and public recognition of the park. (6+, 0-)

1.3.2. Consensus Recommendations to the Managing Agency

The following recommendations resulted from a discussion and vote of review team members. The next management plan update should include information about how these recommendations have been addressed:

1. The team recommends that DRP and park staff continue to assess, refine, and document management goals and scope of work to restore maritime hammock sites now densely covered in Australian pine. (6+, 0-)

   Managing Agency Response: *Agree. Discussion, review and evaluation of these natural communities will be addressed in the next Unit Management Plan revision.*

2. The team recommends that DRP and park staff further assess boating access and public use on the maritime hammocks of Sandspur Island to determine new goals for resource protection and reduce negative visitor impacts. (6+, 0-)

   Managing Agency Response: *The Division will consider these recommendations during the next unit management plan revision.*

3. The team recommends that DRP and park staff work with FWC Upland Invasive Plant staff, and other agencies, to increase funding to do maintenance treatment of exotic plants in areas having had previous control efforts. (6+, 0-)

   Managing Agency Response: *Agree. The Division will continue to pursue all avenues of funding and resources to address exotic removal needs.*

4. The team recommends that DRP and park staff take advantage of resource monitoring already taking place or being done by other entities and incorporate into the park's adaptive management strategies and plan. (6+, 0-)

   Managing Agency Response: *Agree. The Division will continue to partner with other agencies, researchers, and students to pursue research needs of the park that relate to the management of the resources.*

2. Field Review Details

2.1 Field Review Checklist Findings

The following items received high scores on the review team checklist, which indicates that management actions exceeded expectations.

1. **Natural Communities, specifically beach dune, maritime hammock, depression marsh, mangrove swamp, marine consolidated substrate, marine unconsolidated substrate and shell mound**:
2. **Listed species: Protection and Preservation , animals, specifically manatee and Atala butterfly and plants, specifically Johnson's seagrass**:
3. **Natural Resources Survey/Monitoring Resources, specifically, other habitat management effects monitoring and invasive species survey and monitoring**:
4. **Cultural Resources, specifically cultural resource survey, and protection and preservation**:
5. **Non-Native, Invasive & Problem Species, specifically prevention of animals**:
6. **Hydrologic/Geologic function Hydro-Alteration, specifically ditches**:
7. **Ground Water Monitoring, specifically water quality**:
8. **Surface Water Monitoring, specifically water quality**:
9. **Resource Protection, specifically boundary survey**:
10. **Public Access & Education, specifically boat access**:
11. **Environmental Education & Outreach, specifically wildlife, invasive species, habitat management activities, interpretive facilities and signs, recreational opportunities, and management of visitor impacts**:
12. **Management Resources, specifically waste disposal**:

2.2. Items Requiring Improvement Actions in the Field

The following items received low scores on the review team checklist, which indicates that management actions noted during the Field Review were not considered sufficient (less than 3.0 score on average). Please note that overall good scores do not preclude specific recommendations by the review team requiring remediation. **The management plan update should include information on how these items have been addressed**:

1. **Management Resources, specifically equipment, staff and funding, received below average scores. The review team is asked to evaluate, based on information provided by the managing agency, whether management resources are sufficient.**

   Managing Agency Response: Agree. If it is determined that additional staff are needed at the time of the next unit management plan revision, it will be included in the plan. However, no

new staff can be assigned to this or any other park unit unless they are appropriated by the Legislature or reassigned from other units. Funding is determined annually by the Florida Legislature.

2.3. Field Review Checklist and Scores

Field Review Item	Reference #	Anonymous Team Members								Average
		1	2	3	4	5	6	7	8	
Natural Communities (I.A)										
Beach Dune	I.A.1	5	5	5	4	4	4			4.50
Maritime Hammock	I.A.2	5	5	5	4	4	4			4.50
Depression Marsh	I.A.3	4	4	5	3	4				4.00
Mangrove Swamp	I.A.4	5	5	5	5	5	5			5.00
Marine Consolidated Substrate	I.A.5	5	5	5	5	5	5			5.00
Marine Unconsolidated Substrate	I.A.6	5	5	5	5	5	5			5.00
Shell Mound	I.A.7	5	4	4		4				4.25
									Natural Communities Average Score	4.61
Listed species:Protection & Preservation (I.B)										
Animals	I.B.1	5	5	4	4	4	3			4.17
Manatee	I.B.1.a	5	5	5		4				4.75
Atala butterfly	I.B.1.b	5								5.00
Plants	I.B.2	5	5	5	4	4	3			4.33
Johnson's seagrass	I.B.2.a		5	5		4	3			4.25
									Listed Species Average Score	4.50
Natural Resources Survey/Management Resources (I.C)										
Listed species or their habitat monitoring	I.C.2	4	3	4	3	3	3			3.33
Other non-game species or their habitat monitoring	I.C.3	4	3	4	4	3	3			3.50
Other habitat management effects monitoring	I.C.5	5	5	5	4		3			4.40
Invasive species survey / monitoring	I.C.6	5	5	5	4	5	4			4.67
Cultural Resources (Archeological & Historic sites) (II.A, II.B)										
Cultural Res. Survey	II.A	5	4	5	4	3	3			4.00
Protection and preservation	II.B	5	4	5	2	4				4.00
									Cultural Resources Average Score	4.00
Restoration (III.B)										
Mangrove Swamp	III.B.1	5	3	5	3	3	4			3.83
Maritime Hammock	III.B.2	3	4	5	2	2	4			3.33
									Restoration Average Score	3.58
Non-Native, Invasive & Problem Species (III.D)										
Prevention										

prevention - plants	III.D.1.a	4	4	4	3	4	4			3.83
prevention - animals	III.D.1.b	4	4	5	4	4	3			4.00
prevention - pests/pathogens	III.D.1.c	4	3	5	3	3	X			3.60
Control										
control - plants	III.D.2.a	3	4	4	2	3	2			3.00
control - animals	III.D.2.b	3	4	5	2	3	4			3.50
control - pest/pathogens	III.D.2.c	3	4	5	3	3	X			3.60
								Non-Native, Invasive & Problem Species Average Score		3.59
Hydrologic/Geologic function Hydro-Alteration (III.E.1)										
Roads/culverts	III.E.1.a	4	4	4	3	4	4			3.83
Ditches	III.E.1.b	5	4	5	2	4	4			4.00
								Hydrologic/Geologic function, Hydro-Alteration Average Score		3.92
Ground Water Monitoring (III.E.2)										
Ground water quality	III.E.2.a	4	4	5	4	4	4			4.17
								Ground Water Monitoring Average Score		4.17
Surface Water Monitoring (III.E.3)										
Surface water quality	III.E.3.a	4	4	4	5	4	4			4.17
								Surface Water Monitoring Average Score		4.17
Resource Protection (III.F)										
Boundary survey	III.F.1	5	5	5	4	3	4			4.33
Gates & fencing	III.F.2	3	4	4	3	2	4			3.33
Signage	III.F.3	4	4	5	2	3	4			3.67
Law enforcement presence	III.F.4	4	3	4	3	2	4			3.33
								Resource Protection Average Score		3.67
Adjacent Property Concerns (III.G)										
Land Use										
Expanding development	III.G.1.a	3	5	4	2	3	4			3.50
Inholdings/additions	III.G.2	X	4	3	3	3				3.25
Public Access & Education (IV.1, IV.2, IV.3, IV.4, IV.5)										
Public Access										
Roads	IV.1.a	4	4	5	3	3	2			3.50
Parking	IV.1.b	2	4	4	4	4	4			3.67
Boat Access	IV.1.c	4	4	5	4	4	X			4.20
Environmental Education & Outreach										
Wildlife	IV.2.a	5	4	5	3	5	4			4.33
Invasive Species	IV.2.b	5	4	5	3	5	5			4.50
Habitat Management Activities	IV.2.c	5	4	5	2	5	4			4.17
Interpretive facilities and signs	IV.3	5	5	5	3	4	4			4.33
Recreational Opportunities	IV.4	5	5	5	5	5	5			5.00
Management of Visitor Impacts	IV.5	5	5	5	5	4	3			4.50
								Public Access & Education Average Score		4.24
Management Resources (V.1, V.2, V.3. V.4)										
Maintenance										

Waste disposal	V.1.a	5	4	5	4	5	4			4.50
Sanitary facilities	V.1.b	3	4	5	2	3	4			3.50
Infrastructure										
Buildings	V.2.a	4	4	3	2	4	3			3.33
Equipment	V.2.b	3	3	2	2	1	3			2.33
Staff	V.3	2	3	1	2	1	1			1.67
Funding	V.4	2	3	1	1	2	2			1.83
								Management Resources Average Score		2.86

Color Code:	Excellent	Above Average	Below Average	Poor	See Appendix A for detail
		Missing Vote	Insufficient Information		

3. Land Management Plan Review Details

3.1 Items Requiring Improvements in the Management Plan

The following items received low scores on the review team checklist, which indicates that the text noted in the Management Plan Review does not sufficiently address this issue (less than 3.0 score on average.). Please note that overall good scores do not preclude specific recommendations by the review team requiring remediation. The next management plan update should address the checklist items identified below:

1. **Natural Communities, specifically shell mound, received a below average score. This is an indication that the management plan does not sufficiently address current or desired condition and/or future management actions to protect or restore.**

   Managing Agency Response: *Agree. Discussion, review and evaluation of these natural communities will be addressed in the next Unit Management Plan revision.*

2. **Listed species: Protection & Preservation, specifically animals, manatee, Atala butterfly, plants, and Johnson's seagrass, received below average scores. This is an indication that the management plan does not sufficiently address protection and preservation of species.**

   Managing Agency Response: *Agree. Inventory and monitoring focus on this and other listed species that require special management attention will be included in the Unit Management Plan.*

3. **Natural Resources Survey and Monitoring Resources, specifically listed species or their habitat monitoring, other non-game species or their habitat monitoring, other habitat management effects monitoring and invasive species survey/monitoring, received below average scores. This is an indication that the management plan does not sufficiently address survey or monitoring.**

Managing Agency Response *Agree. Inventory and monitoring focus on this and other listed species that require special management attention will be included in the Unit Management Plan.*

4. **Non-Native, Invasive & Problem Species, specifically prevention and control of pests/pathogens, received below average scores. This is an indication that the management plan does not sufficiently address prevention of invasive species.**

   Managing Agency Response: *Agree. The prevention and control of pest/pathogens will be included in the Unit Management Plan.*

5. **Adjacent Property Concerns, specifically inholdings/additions, discussion of potential surplus land determination and surplus lands identified, received below average scores. This is an indication that the management plan does not sufficiently address surplus lands.**

   Managing Agency Response: *Disagree. Surplus lands are addressed on page 47 of the approved management plan. There are currently no parcels identified as being appropriate to surplus at this park.*

   Public Access & Education, specifically boat access, received a below average score. This is an indication that the management plan does not sufficiently address boat access.

   Managing Agency Response: *Agree. The Division will address public access and education, specifically boat access in the update of the management plan.*

6. **Environmental Education & Outreach, specifically management of visitor impacts, received a below average score. This is an indication that the management plan does not sufficiently address visitor impacts.**

   Managing Agency Response: *Agree. The Division will address environmental education and outreach needs in the update of the management plan.*

3.2 Management Plan Review Checklist and Scores

Plan Review Item	Reference #	Anonymous Team Members								Average
		1	2	3	4	5	6	7	8	
Natural Communities (I.A)										
Beach Dune	I.A.1	5	3	4	5	4	4			4.17
Maritime Hammock	I.A.2	4	3	4	4	4	4			3.83
Depression Marsh	I.A.3	4	3	4	3	4				3.60
Mangrove Swamp	I.A.4	5	3	4	3	4	5			4.00
Marine Consolidated Substrate	I.A.5	3	3	4	4	4	5			3.83

Marine Unconsolidated Substrate	I.A.6	4	3	4	4	4	5			4.00
Shell Mound	I.A.7	1	1	1	1	2	1			1.17
									Natural Communities Average Score	3.51
Listed species: Protection & Preservation (I.B)										
Animals	I.B.1	2	2	2	3	3	3			2.50
Manatee	I.B.1.a	2	2	2		2				2.00
Atala butterfly	I.B.1.b	1								1.00
Plants	I.B.2	1	2	2	3	2	3			2.17
Johnson's seagrass	I.B.2.a	1	2	2		3	3			2.20
									Listed Species Average Score	1.97
Natural Resources Survey/Management Resources (I.C)										
Listed species or their habitat monitoring	I.C.2	1	2	2	3	3	2			2.17
Other non-game species or their habitat monitoring	I.C.3	1	2	2	3	3	2			2.17
Other habitat management effects monitoring	I.C.5	1	2	3	2	3	3			2.33
Invasive species survey / monitoring	I.C.6	1	2	3	2	3	4			2.50
Cultural Resources (Archeological & Historic sites) (II.A,II.B)										
Cultural Res. Survey	II.A		3	4	4	3	3			3.40
Protection and preservation	II.B		3	4	2	3				3.00
									Cultural Resources Average Score	3.20
Restoration (III.B)										
Mangrove Swamp	III.B.1	5	4	4	3	3	4			3.83
Maritime Hammock	III.B.2	4	4	4	3	2	4			3.50
									Restoration Average Score	3.67
Non-Native, Invasive & Problem Species (III.D)										
Prevention										
prevention - plants	III.E.1.a	3		3	3	3	3			3.00
prevention - animals	III.E.1.b	3		3	3	3	3			3.00
prevention - pests/pathogens	III.E.1.c	3		3	3	2				2.75
Control										
control - plants	III.E.2.a	3	3	3	3	2	4			3.00
control - animals	III.E.2.b	3	3	3	3	3	4			3.17
control - pest/pathogens	III.E.2.c	3	3	3	2	3	3			2.83
									Non-Native, Invasive & Problem Species Average Score	2.96
Hydrologic/Geologic function, Hydro-Alteration (III.E.1)										
Roads/culverts	III.F.1.a	4	2	3	3	4	4			3.33
Ditches	III.F.1.b	3	2	3	3	4	4			3.17
									Hydrologic/Geologic function, Hydro-Alteration Average Score	3.25
Ground Water Monitoring (III.E.2)										
Ground water quality	III.F.2.a	4	4	4	3	3	4			3.67
									Ground Water Monitoring Average Score	3.67
Surface Water Monitoring (III.E.3)										
Surface water quality	III.F.3.a	4	4	4	4	3	4			3.83

							Surface Water Monitoring Average Score			3.83
Resource Protection (III.F)										
Boundary survey	III.G.1	5	4	3	3	3	4			3.67
Gates & fencing	III.G.2	4	2	3	3	3	4			3.17
Signage	III.G.3	4	2	3	3	3	4			3.17
Law enforcement presence	III.G.4	4	2	4	3	2	4			3.17
							Resource Protection Average Score			3.29
Adjacent Property Concerns (III.G)										
Land Use										
Expanding development	III.H.1.a	5	3	4	2	4	4			3.67
Inholdings/additions	III.H.2		3	1	3	3	3			2.60
Discussion of Potential Surplus Land Determination	III.H.3	1	2	1	1	3	4			2.00
Surplus Lands Identified?	III.H.4	1	2	1	1	3	3			1.83
Public Access & Education (IV.1, IV.2, IV.3, IV.4, IV.5)										
Public Access										
Roads	IV.1.a	3	3	3	3	3	4			3.17
Parking	IV.1.b	3	3	3	3	4	4			3.33
Boat Access	IV.1.c	3	3	3	3	4	1			2.83
Environmental Education & Outreach										
Wildlife	IV.2.a	3	3	3	2	5	4			3.33
Invasive Species	IV.2.b	3	3	3	2	5	5			3.50
Habitat Management Activities	IV.2.c	3	3	3	3	5	4			3.50
Interpretive facilities and signs	IV.3	3	3	3	3	4	4			3.33
Recreational Opportunities	IV.4	3	4	3	4	5	5			4.00
Management of Visitor Impacts	IV.5	3	3	1	3	4	3			2.83
							Public Access & Education Average Score			3.31
Managed Area Uses (VI.A, VI.B)										
Existing Uses										
Primitive Cabins	VI.A.1	5	5	5	5	5	4			4.83
Swimming	VI.A.2	5	5	5	4	5	4			4.67
Fishing	VI.A.3	5	5	5	4	5	4			4.67
Canoe/Kayak Launch	VI.A.4	5	5	5	4	5	4			4.67
Picnicking	VI.A.5	5	5	5	5	5	4			4.83
Paved Bike Path	VI.A.6	5	5	5	5	5	3			4.67
Off-road Biking	VI.A.7	5	5	5	5	5				5.00
Special Events	VI.A.8	5	5	5		5				5.00
Proposed Uses										
Nature Center	VI.B.1	5	5	5	4	5				4.80
RV & Tent Camping	VI.B.2	5	5	5	4	5				4.80

Color Code:	Excellent	Above Average	Below Average	Poor	See Appendix A for detail
		Missing Vote	Insufficient Information		

Appendix A: Scoring System Detail

Explanation of Consensus Commendations:

Often, the exceptional condition of some of the property's attributes impress review team members. In those instances, team members are encouraged to offer positive feedback to the managing agency in the form of a commendation. The teams develop commendations generally by standard consensus processes or by majority vote if they cannot obtain a true consensus.

Explanation of Consensus Recommendations:

Subsection 259.036(2), F.S., specifically states that the managing entity shall consider the findings and recommendations of the land management review. We ask team members to provide general recommendations for improving the management or public access and use of the property. The teams discuss these recommendations and develop consensus recommendations as described above. We provide these recommendations to the managing agency to consider when finalizing the required ten-year management plan update. We encourage the manager to respond directly to these recommendations and include their responses in the final report when received in a timely manner.

Explanation of Field Review Checklist and Scores, and Management Plan Review Checklist and Scores:

We provide team members with a checklist to fill out during the evaluation workshop phase of the Land Management Review. The checklist is the uniform tool used to evaluate both the management actions and condition of the managed area, and the sufficiency of the management plan elements. During the evaluation workshop, team members individually provide scores on each issue on the checklist, from their individual perspective. Team members also base their evaluations on information provided by the managing agency staff as well as other team member discussions. Staff averages these scores to evaluate the overall conditions on the ground, and how the management plan addresses the issues. Team members must score each management issue 1 to 5: 1 being the management practices are clearly insufficient, and 5 being that the management practices are excellent. Members may choose to abstain if they have inadequate expertise or information to make a cardinal numeric choice, as indicated by an "X" on the checklist scores, or they may not provide a vote for other unknown reasons, as indicated by a blank. If a majority of members failed to vote on any issue, that issue is determined to be irrelevant to management of that property or it was inadequately reviewed by the team to make an intelligent choice. In either case staff eliminated the issue from the report to the manager.

Average scores are interpreted as follows:

Scores 4.0 to 5.0 are *Excellent*

Scores 3.0 to 3.99 are *Above Average*

Scores 2.0 to 2.99 are *Below Average*

Scores 1.0 to 1.99 are considered *Poor*

Addendum 9—Timber Management Analysis

Florida State Parks
Timber Management Analysis

Special Management Considerations

Timber Management Analysis

Chapters 253 and 259, Florida Statutes, require an assessment of the feasibility of managing timber in land management plans for parcels greater than 1,000 acres if the lead agency determines that timber management is not in conflict with the primary management objectives of the land. The long-term management goal for forest communities in the state park system is to maintain or re-establish natural characteristics to the degree practicable, except in those natural communities specifically managed for a structure that differs from reference site descriptions established by the Florida Natural Areas Inventory (FNAI).

The feasibility of harvesting timber at Oleta River State Park (Oleta River) during the period covered by this plan was considered in the context of the Division of Recreation and Parks' (DRP) statutory responsibilities and an analysis of the park's resource needs and values. Oleta River is located in Miami-Dade County and is designated as a single-use park. As such, timber management is only permitted as a method of natural community (NatCom) restoration and maintenance rather than as an ongoing extractive activity. In the case of imperiled species, the management of certain NatComs may differ from standard treatments to provide optimum habitat conditions within the park. In some circumstances, timber management may include the harvesting and removal of invasive/exotic overstory trees. Please note that any NatCom acreage changes and NatCom treatments occurring after April 2019 are not reflected in this analysis. DRP has contracted with a private sector, professional forest management firm to complete this timber management analysis: F4 Tech.

Oleta River comprises 1,033 acres partitioned into 17 management zones. According to management zone and NatCom boundary GIS data provided by DRP in April 2019 and general desktop assessments of publicly-available aerial imagery, the only forested, upland potential candidate NatCom type for revenue generation and parcel enhancement through timber management would be maritime hammock (seven NatCom polygons comprising 48 acres). However, maritime hammock polygons within the park were previously converted from an altered landcover type and associated restoration actions have resulted in early seral stage conditions. Given this current state of development, it would be outside the period of this management plan before any timber management activities could be scheduled. Furthermore, since DRP does not typically conduct timber management activities (harvesting) in historically hardwood-dominated NatCom types such as maritime hammock, timber management is not likely to occur within this NatCom type.

The other potential candidate area for timber management would be one of the altered landcover types: spoil area (302 acres comprising 11 polygons ranging in size from 0.6 to 208 acres). Many to most spoil area polygons within the park are dominated by overstory Australian pine (*Casuarina* spp.) and Brazilian pepper (*Schinus terebinthifolius*). While many of these invasive/exotic overstory trees are of a size and density per polygon that could warrant the use of typical commercial tree harvesting equipment, the overall goal of such an action would be to eradicate these

species from the site and restore these spoil areas to maritime hammock. Therefore, since harvesting these invasive/exotic overstory trees would be a one-time event to initiate restoration of a hardwood-dominated NatCom type, harvesting and removing these overstory trees would not be considered an ongoing maintenance activity nor would any future harvests be part of the restoration plan. In essence, tree harvesting is a by-product and not a primary goal of this restoration plan/action.

Maritime hammocks are a hardwood-dominated NatCom type, which DRP does not manage for timber resources, and standard silvicultural operations are not aligned with long-term NatCom and park management goals. Additionally, few timber markets are local to this park and therefore harvested timber products would not generate any revenue but, would instead represent additional costs related to disposal. Based on this information, it was concluded that timber management and attendant actions are not needed nor viable for restoring and maintaining forested natural communities at Oleta River.

During the period of this UMP, active management of all forested NatCom polygons could be necessary and appropriate in the wake of natural disturbances such as hurricanes, droughts, insect/disease infestations, and invasive/exotic species outbreaks should such events pose a significant threat to forest resources and ecosystem conditions within the park.

Addendum 10—Local Government Comprehensive Plan Compliance

Calvin, Giordano & Associates, Inc.
EXCEPTIONAL SOLUTIONS™

Memorandum

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☒ **Miami-Dade Office** · 10800 Biscayne Boulevard · Suite 950 · Miami, FL 33161 · 786.485.5200(p) · 786.485.1520(f)

Date:	April 6, 2022
To:	Kent Walia, AICP Community Development Director City of North Miami Beach Community Development Department
From:	Alex A. David, AICP Director Miami Office | Planning Alex A. David
Subject:	Review of Oleta River State Park Advisory Group Draft Unit Management Plan
CGA No.:	21-5796
CC:	Alex A. David, AICP, Director Miami-Dade Office Calvin Giordano & Associates

I have completed a review of the Draft Management Plan for Oleta River State Park and its consistency with the City's Comprehensive Plan. The Oleta Plan is comprehensive in nature and meets the requirements of Florida Statutes.

I find that it is ***consistent*** with the City's Plan.

I have only one comment:

- Clarify whether the park acreage is 1,032.78 or 1,013.64 and be consistent throughout the document with the correct number.